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Subjective well-being in a transition economy evidence from Macedonia

Grkovska, Mirjana

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Subjective Well-Being in a Transition Economy: Evidence from Macedonia

by
Mirjana Grkovska BA, MA

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ABSTRACT

This thesis contributes to the field of economics of happiness by examining, for the first time in detail, the determinants of subjective well-being (SWB) in Macedonia. Three data sources, European Quality of Life Survey, World Bank Indicators and World Governance Indicators for the periods 2007–2008 and 2011–2012 are analysed, by using Ordinary Least Squares, ordered probit, quantile regression models, Shapley decompositions, statistical kernel matching and Blinder-Oaxaca decompositions, which support the development of three different but related empirical studies.

The first study analyses the impact of a range of socio-economic characteristics. The results suggest that employment activity, health and household income are the most prominent individual-level determinants of SWB in Macedonia. The second study focuses on the labour market, especially those factors related to employment or unemployment status and finds that job insecurity, duration of unemployment and the receipt of unemployment benefits negatively affect the SWB of Macedonians. The last study places Macedonia in a broader European context and finds that institutional factors (such as corruption and social trust) and macro-economic conditions (unemployment and GDP) can help to explain the differences in SWB between Macedonia and other countries in Europe.

The analysis also sheds lights on the rise in SWB in Macedonia, and finds that this increase is only partly related to differences in personal characteristics, which suggests that the data are unable to explain some of the rise in SWB. Possible reasons are suggested for this. The main policy implications are that the key areas for intervention in Macedonia to further enhance SWB are labour-market issues (employment and income levels) as well as institutional reforms.

Dedication

To my Mum

Table of Contents

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When I first applied for this PhD position, over three years ago, I barely knew what I was getting myself involved in. At that time, I thought that a PhD was just the next level on the educational ladder. It, however, proved to be very different to my past experiences and importantly not to be 'yet another degree'. My research often moved away from the straightforward and predictable paths I had scheduled and took me to unexpected destinations. My PhD journey changed not only the way I studied before, but also my perspective on life. Thus, it has been a personal and professional challenge and a rewarding experience that has inspired my curiosity and hunger for further knowledge. I understand it does not finish here; this is just the beginning and I am looking forward to exploring more.

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List of Tables

List of Figures

Acronyms

AT	Austria
ATT	Average Treatment Effect
BE	Belgium
BG	Bulgaria
CEFTA	Central European Free Trade Agreement
CZ	Czech Republic
DE	Germany
DK	Denmark
DM	Deutsche Mark
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EE	Estonia
EL	Greece
EQLS	European Quality of Life Survey
ES	Spain
ESS	European Social Survey
EU	European Union
EUR	Euro
EVS	European Values Survey
FDI	Foreign Direct Investment
FI	Finland
FR	France
FYROM	Former Yugoslav Republic of Macedonia
GDP	Gross Domestic Product
HR	Croatia
HU	Hungary
IE	Ireland
ILO	International Labour Organisation
IMF	International Monetary Fund
IRI	International Republican Institute
IT	Italy
LA	Latvia
LITS	Life in Transition Survey
LT	Lithuania
LU	Luxembourg
ME	Montenegro
MK	Macedonia
MT	Malta
NL	Netherlands
OECD	Organisation for Economic Co-Operation and Development
OLS	Ordinary Least Squares
OSCE	Organization for Security and Co-Operation in Europe
PL	Poland
PPP	Purchasing Power Parity
PT	Portugal
RO	Romania

RS	Serbia
SDSM	Social Democratic Union of Macedonia
SE	Sweden
SI	Slovenia
SK	Slovakia
SME	Small and Medium-Sized Enterprise
SWB	Subjective Well-Being
TR	Turkey
US	United States
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VAT	Value Added Tax
VMRO-DPMNE	Internal Macedonian Revolutionary Organization - Democratic Party for Macedonian National Unity
WB	World Bank
WBI	World Bank Indicators
WGI	Worldwide Governance Indicators
WTO	World Trade Organisation
WVS	World Values Survey
XK	Kosovo

CHAPTER 1

INTRODUCTION

What will improve our lives? How can we lead happy lives? What will make us happier and more satisfied with our lives? While such questions have been commonly asked in the past five decades, their relevance dates as far back as the work of Aristotle, who suggests that happiness, or the absence of it, governs and guides all human behaviour (Clark, 2008). In this sense, wealth, pleasure and honour, according to Aristotle, are not ends in themselves but are pursued in anticipation of happiness they could bring (Honderich, 2005). Despite its longstanding roots in philosophical traditions, only recently have economists begun to research happiness, often called subjective well-being (SWB), in a scientific, systematic and empirical way. The interest in SWB research that appears to have emerged with the acknowledged limitations of the traditional measures of living standards, such as GDP, has paved the way for a sub-discipline within economics called the 'economics of happiness'.

In fact, until very recently, economic discussions have only treated SWB as a peripheral consideration, hardly featured in policy and economic decisions that governments undertake (Dolan & Metcalfe, 2012). One main reason for the insufficient attention from governments is their focus on what appears to be more practical questions of economic development, such as income, employment or capital accumulation (Clark, 2002). However, the enormous evidence regarding the relevance and importance of SWB has prompted suggestions to governments to set SWB as a goal of their policy agendas (Kahneman & Krueger, 2006, Stiglitz et al., 2009, Dolan et al., 2011). Scholars have particularly drawn attention to the fact that measures of SWB capture the quality of life in a way that differs from the traditional economic view (Skoglund, 2017), as SWB mirrors both perceived and actual quality of life (Nikolova, 2016). Thus, SWB

may serve as a complementary indicator for measuring the country's economic and social progress.

This thesis focuses on Macedonia, one of the countries where government attention to SWB as a policy objective has been virtually non-existent (Soldi et al., 2014). Moreover, Macedonia has not received much research attention, perhaps due to the difficulty in accessing data on the country. However, it arguably provides one of the most interesting puzzles in Europe for SWB study because Macedonia has experienced a long-lasting process of transformation in its economy, political system, society and institutional framework, as part of its transition to a market-based economy. As a result of reforms, a multiplicity of conditions emerged, including severe economic and social conditions, stubbornly high unemployment, widespread corruption, weak institutional setup, ethnic tensions and political and economic instability (Bartlett, 2010), conditions known to have a strong and negative influence on SWB. Despite this, Macedonia has recorded one of the largest SWB improvements over the period from 2005–2007 to 2015–2017 (Helliwell et al., 2012, Soldi et al., 2014, Helliwell et al., 2017, EBRD, 2017). It may seem surprising that Macedonians perceive their lives as relatively happy, despite the fact that good social arrangements and sound economic and institutional conditions considered to be crucial for SWB are mostly absent. These issues make Macedonia an intriguing paradox in which to study SWB.

The rest of this chapter is organised as follows. In the next section, the reasons for research of SWB in Macedonia are discussed, followed by the approach taken in terms of the methodology and theory. The next section presents the research questions alongside the significance of the thesis. Finally, the chapter outlines the remainder of the thesis.

1.1. Motivation for Researching Subjective Well-Being in Macedonia

Since its emergence over four decades ago, SWB has become a rapidly expanding area of research across the social sciences. In particular, the interest of economists around SWB has led to a proliferation of strong and robust empirical evidence, which is starting to penetrate the political arena (Alexandrova, 2005). While substantial research strides continue in this area, SWB studies have mainly paid enormous attention to advanced countries in North America or Europe, studied individually or comparatively (Winkelmann & Winkelmann, 1998, Duncan, 2005, Lucas, 2007, Stadelmann-Steffen & Vatter, 2012). This has undoubtedly led to a useful collection of policy-related findings, mainly applicable to developed economies.

The emphasis on developed economies contrasts with the relatively little research on individual transition economies, a problem that may be partly due to the unavailability of data. As the evidence that SWB researchers have provided on transition countries currently stands, most of the studies are comparative (Grün & Klasen, 2000, Hayo, 2007, Sanfey & Teksoz, 2007, Guriev & Zhuravskaya, 2009, Habibov & Afandi, 2009, Dabalen & Saumik, 2011, Lehmann & Muravyev, 2012, Popova, 2014). Similarly, at best, only a few comparative studies analyse Macedonia (Inglehart, 2002, Guriev & Zhuravskaya, 2009, Mellander et al., 2011, Esipova et al., 2013, Graham & Pozuelo, 2017), having found determinants of SWB that tend to hold in group of countries. While useful for obtaining a general idea of the influence of those factors on SWB, the comparative approach relies on a strong assumption that the findings from comparative studies will hold in each country (Ng, 2002, Graham & Nikolova, 2015), given that they fail to account for their diversity. The comparative approach also makes it difficult to assume the determinants of SWB that would apply to the specific context of a single transition country, such as Macedonia.

However, the complexity of human life, coupled with factors within the psychological and socio-economic world and the consequences of transitional reforms (e.g. changes in the labour market, provision of public goods such as health, education and social aid) may result in determinants of happiness in Macedonia that differ from those in advanced countries and even in other transition economies. The unique economic histories of transition countries may involve different levels of development or background characteristics that may influence SWB differently. Thus, even among the transition countries that may be comparable due to the similar transition processes they have in common, each country is unique in how events and experiences impact on lives over time (Abdallah et al., 2013). In other words, specific national characteristics may have emerged, which influence people's lives in different ways and shape their perceptions (Layard, 2006). Therefore, the generalisation of the findings to any transition country, without having investigated the specific country context, may produce misleading inferences, especially with respect to informing and shaping public policy. In order for this research area to maintain its rigour and the role it plays in policy debates, context-specific research is indispensable. Findings derived from particular country contexts are expected to guide policy by revealing determinants specific to the local context and relevant for developing effective policies (Diener & Seligman, 2004).

With some exceptions (Litchfield et al., 2012, Graham et al., 2017), studies on single transition countries have been less popular in the past decade (Namazie & Sanfey, 2001, Lelkes, 2006). Attention has mostly focused on the broad consequences for SWB of transition that initially lowered SWB, and the reasons for the decreased levels of SWB during the early years of the transition process (Latack & Dozier, 1986, Grün & Klasen, 2000, Namazie & Sanfey, 2001, Hayo, 2007, Sanfey & Teksoz, 2007, Habibov & Afandi, 2009, Guriev & Zhuravskaya, 2009, Dabalen & Paul, 2011, Lehmann & Muravyev, 2012, Popova, 2014).

Work done exclusively on Macedonia includes the European Quality of Life Survey (EQLS) report (Soldi et al., 2014), which provides overall evidence on the SWB of socio-demographic groups but fails to provide detailed evidence on the labour market and macro-level determinants of SWB, despite their salience for the country-specific context. For example, given the labour-market issues in Macedonia (see Chapter 3), Macedonians confront additional societal challenges compared to people in other countries, which may uniquely affect their perceptions of SWB. Thus, the labour-market-related determinants of SWB merit further research in the Macedonian context.

Next, the reports and papers that have also taken note of SWB in Macedonia use conventional methods such as Ordinary Least Squares (OLS). However, Clark (2018) suggests the need to further investigate the determinants of SWB by using alternative statistical methods and not depending solely on OLS.

Last, the evidence regarding the rising SWB trend in Macedonia from the reports on happiness (Helliwell et al., 2012, 2017, EBRD, 2017) provokes the need for more research on Macedonia. While scholars have repeatedly documented that transition countries usually appear as the least happy in SWB rankings (Lelkes, 2006, Deaton, 2008, Rodríguez-Pose & Maslauskaite, 2011, Nikolova, 2016), Macedonia has experienced a rapid recent increase in SWB (Helliwell et al., 2012, Soldi et al., 2014, Betti et al., 2016, EBRD, 2017). According to the latest World Happiness Reports, since 2008–2010 Macedonia has ascended the SWB ladder, so that in 2014–2016 held sixth place for the most substantial increase in SWB (0.880 points on a scale of 0 to 10) compared to over 150 other countries (Helliwell et al., 2017, Sachs et al., 2018). While the country is achieving many successes in this area, SWB levels in Macedonia remain below the EU average SWB (Leončikas et al., 2013).[1] An important task in revealing

[1]Some scholars claim that growing income inequality, high levels of material deprivation, poverty (Gerovska Mitev, 2012) and unemployment (Soldi et al., 2014) alongside the economic crisis (Bartlett, 2010) may have resulted in SWB levels in Macedonia remaining below most EU countries (Leončikas et al., 2013).

the most effective ways of increasing SWB is to examine closely and in detail the context of Macedonia and look at a wide range of determinants of SWB, in order to offer robust recommendations for policy making for Macedonia.

1.2. Approach Taken in This Thesis

This thesis investigates SWB in the context of Macedonia. SWB is examined through its two core components: life satisfaction, which is the evaluative component and long-term aspect of SWB (Diener, 2000); and happiness, which is the affective or momentary aspect of SWB (Veenhoven, 2012). Although both reflect SWB, they represent distinct components (Lang & Heckhausen, 2001), and scholars argue that it is important to study them separately in order to obtain a comprehensive picture of SWB (Diener, 1984, Busseri et al., 2007). For example, respondents may have similar levels of life satisfaction but assess their hedonic levels differently (Lyubomirsky et al., 2005). This is because an individual can score high on a life satisfaction assessment, but report low happiness when momentarily experiencing bad feelings (Helliwell et al., 2012). Similarly, a person can be happy, but at the same time, score low on the evaluative measures of SWB (Helliwell et al., 2014). The approach of looking at both SWB measures separately should inform what is unique to each, in terms of the determinants related to SWB (Busseri & Sadava, 2011).

The research takes a quantitative approach and has two main purposes: descriptive and explanatory. First, the research tries to establish the levels of SWB across different demographic groups in Macedonia, and then national SWB levels across countries in Europe to compare Macedonia to other countries in terms of SWB levels. Second, the research examines the associations between SWB and a wide range of variables in Macedonia, then applies those associations to the European context. Cross-sectional data from two waves (2007–2008 and 2011–2012) from the European Quality of Life Survey (EQLS) are used because they are most

appropriate to studying SWB in Macedonia, in terms of the sample size and the time span. As the global financial crisis occurred between the two waves, the data can be considered pre- and post-crisis data, and thus appropriate for considering the crisis and its effect on SWB. In addition, the time span is appropriate for contributing to current academic debates regarding the closing of the SWB gap between transition and advanced countries (EBRD, 2017). For instance, Nikolova (2016) shows that the reported SWB levels of citizens of transition countries have moved closer to the ones from advanced economies, with a substantial leap detected in 2010–2013. EQLS is then merged with national level data from the World Bank Indicators (WBI) and World Governance Indicators (WGI). The analysis is performed using the statistical software package Stata.

Exploring the determinants of SWB in Macedonia is done using a set of individual- and country-level variables that have been commonly found to matter in other SWB studies (outlined in Chapter 2) and for which the dataset used had a sufficient sample. Although this research is rooted in economics, it also draws on ideas and concepts from psychology and sociology to capture the complexity of SWB. Specifically, it considers people's feelings and perceptions regarding different aspects of their lives, such as those relating to job insecurity or trusting other people.

While the empirical evidence contributes to the robustness of the findings regarding the association between SWB and macro- and individual-level variables, the thesis also relies on a theoretical framework in order to meet the requirements for rigorous academic research. In this regard, the capability approach that Sen (1985) and Nussbaum (1999, 2011a) develop, was used to provide the foundational basis within which to view the empirical analysis. It aligns with the proposition by Sen (2008) that an individual's state (here, SWB) depends on the capabilities (i.e. opportunities, choices or freedom) available to that individual, from which they can do or achieve what they value or have reason to value (Alkire, 2015). Nussbaum's (2001b) list of ten

key human capabilities that guide the choice of empirical constructs, depending on the time and context examined (Alkire, 2015), facilitates the application of the capability approach. The data available and the findings from the existing literature provide the basis for the formulation and operationalisation of the capabilities.

According to the capability approach, SWB is a complex concept that requires the achievement of a range of conditions, not only economic, to ensure a happy life. The capabilities are especially relevant in the context of Macedonia, where people may not have sufficient choices and freedom to live the life they value and achieve high levels of SWB, given the country background and the consequences of the prolonged period of transition. From the perspective of the capability approach, an increase of SWB in Macedonia should be achieved through the expansion of capabilities, the process of expanding the range of choices and opportunities available to people.

1.3. Research Questions and Significance of the Thesis

Three interlocking objectives guide this thesis: to examine a range of socio-economic determinants of SWB in the context of Macedonia; to identify labour-market-related determinants of SWB among the employed and unemployed in Macedonia; and to explore aggregate-level determinants that may explain the SWB differential between Macedonia and other countries in Europe. To achieve these stated purposes, the overall central research question is: 'What makes for a happy life in Macedonia?' The thesis sets out to address this main question by answering the following sub-questions:

1. What specific socio-economic determinants are associated with SWB in Macedonia? (Chapter 4)

2. What differences, if any, exist in the effect of socio-economic determinants across the two time periods (2007–2008 and 2011–2012) and the two measures of SWB (life satisfaction and happiness)? (Chapter 4)

3. How do the effects of the socio-economic determinants vary across different points along the distribution of SWB? (Chapter 4)

4. What particular socio-economic factors have a similar impact on the SWB of the employed and the unemployed? (Chapter 5)

5. What job-related characteristics affect the SWB of the employed? (Chapter 5)

6. What are the unemployment-related characteristics associated with the SWB of the unemployed? (Chapter 5)

7. How do SWB levels in Macedonia compare to those of other countries in Europe? (Chapter 6)

8. What macro-level factors might account for the SWB gap between Macedonia and other countries? (Chapter 6)

9. How does the relative importance of SWB determinants differ across regions in Europe? (Chapter 6)

By tackling these research questions, the thesis seeks to make a valuable contribution toward filling the knowledge gap in the SWB literature. First, it addresses the particular disregard in the literature of individual transition countries by adding specific knowledge to the existing studies (Eggers et al., 2006, Brockmann et al., 2009, Litchfield et al., 2012, Graham et al., 2017) from a country-specific context characterised by stubbornly high unemployment, economic and political instability, labour-market issues and corrupted institutions. Second, the thesis adds to the relatively little research (Binder & Coad, 2011b, 2015, Graham & Nikolova, 2015) that investigates the heterogeneous effects of the explanatory variables on SWB, depending on people's positioning on the SWB scale. Third, the thesis offers new insights into

the SWB literature around the impact of the labour-market status by examining some key characteristics of employment and unemployment on SWB in a small transition country, not done previously.

Similar studies exist regarding the effect of the determinants of SWB linked to an individual's employment status in developed countries (Winkelmann, 2014, De Neve & Ward, 2017). The evidence in this thesis relates to a context where labour-market participants confront additional issues that are likely to influence their SWB. These include high and especially long-term unemployment, low employment, inadequate education and social care and the existence of a large informal sector. Fourth, the study extends the empirical evidence in the SWB reports (Helliwell et al., 2012, Soldi et al., 2014, Helliwell et al., 2017, EBRD, 2017), which claim SWB improvements in Macedonia but do not specifically investigate the possible reason for the improvements. Fifth, the thesis contributes to the ongoing discussion (Djankov et al., 2016, Nikolova, 2016) on the existence of the SWB gap across countries, which seeks to address what macro-level factors can account for the differential in national levels of SWB across countries in Europe.

Another notable feature of the thesis lies in the application of a wide range of statistical/econometric methods to investigate SWB (i.e. quantile regressions, kernel matching, Rosenbaum test, Blinder-Oaxaca decomposition, and Shapley-based decomposition). This provides a deeper analysis and generates results that can supplement those from commonly used methods such as OLS. In addition, all the statistical techniques are applied to the EQLS, a dataset that has been comparatively underused in other studies. This helps to establish whether the findings from other studies can be replicated if EQLS were used instead.

Aside from its significance in terms of its contribution to knowledge, the thesis also has practical implications for policy makers, either at national or organisational levels. A better understanding of what makes for a happy life provides insights for the government as to where

to direct its efforts in order to increase people's SWB in Macedonia, which will be especially relevant if the country decides to incorporate SWB as a measure of national progress. Demographic groups within the population that score lowest for SWB represent areas of concern and can represent a potential target for policy intervention. The findings also offer insights into conditions with regard to promoting the SWB of people in the labour market. Last, the results provide an indication of the country-level conditions that must be improved, which keep Macedonia ranking below the countries with the highest SWB in Europe.

1.4. Structure of the Thesis

The thesis consists of seven chapters. A brief summary of the remaining chapters follows. Chapter 2 is the literature review that describes the evolution of the sub-discipline of the economics of happiness, philosophical theories, and different components and measures of SWB. However, the largest part of the chapter is a comprehensive and critical assessment of the relevant literature on the determinants of SWB, whilst noting its limitations in relation to this thesis, namely, focusing primarily on developed European and North American countries. The chapter also discusses the findings from the limited number of studies of transition countries with which this thesis is closely aligned.

Chapter 3 provides a detailed descriptive background of Macedonia to explain the relevance of the chosen context for SWB research. It offers a broad overview of the living conditions in the country and the challenges people face, linking them back to the transition process when the country was separating from Yugoslavia. Appreciating the post-transition implications in different areas in the country can profoundly improve the understanding of how people's lives have developed over time.

Chapter 4 contains the introductory part of the empirical analysis. It examines the relationship between SWB and a range of socio-economic determinants in Macedonia. Apart

from the standard, widely used approaches in SWB research, such as OLS and ordered probit models, the analysis is undertaken using quantile regressions. This approach provides deeper insights into the effect of the different determinants on people's SWB, conditional on the respondents' positioning on the SWB scale.

Chapter 5 provides a closer investigation of the impact of the labour-market-related determinants on the SWB of Macedonians. Specifically, the chapter looks separately at the SWB of the employed by investigating the effect of job-related characteristics, such as the type of occupation, contract, sector and level of job insecurity. With respect to the unemployed, the analysis considers the impact of duration of unemployment, receipt of unemployment benefits, and labour-market history on the SWB of the unemployed. Finally, the chapter directly analyses the SWB improvement in Macedonia over the period of 2007–2008 and 2011–2012, by undertaking more complex analyses.

Chapter 6 extends the analysis from the previous chapters by complementing the individual-level with the country-level variables to explain SWB differences between Macedonia and other countries in Europe. These refer to macro-economic (GDP, inflation, unemployment rate) and institutional (corruption, voice and accountability, social trust) variables. In addition, the analysis broadens to include thirty-two more countries in Europe. Placing Macedonia in a broader European context, followed by a narrower Balkan orientation, enables identification of the potential similarities and differences with other countries, discovering the sources of SWB differentials amongst nations, which is important in overcoming disparities in reported SWB across Europe.

Finally, Chapter 7 summarises the main arguments and presents the key findings from all three empirical chapters. The chapter offers a detailed explanation of the contribution to specific knowledge that the thesis makes. It also refers to the variety of implications for public-policy making, as well as the management of public- and private-sector organisations, by proposing

adoption of policies and practices that can increase SWB in Macedonia and bring SWB levels closer to those of the countries with the highest SWB. The thesis limitations are also discussed, and steps for further research are proposed.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

For an enduring period of time, measures of material standards have been the focus of national debates about countries' social and economic progress. In fact, economic growth has typically been a government's primary concern, and most governments largely operate on the assumption that more income is better for improving human lives (Alkire, 2002). At early stages of economic development, when the basic needs of people such as food, water and shelter were not easily met, these traditional economic indicators were appropriate and useful (Guillen-Royo & Velazco, 2006), partly because they indicate the degree to which people's needs are addressed and provide important information about the living standards in a country (Veenhoven, 2003). In other words, the provision of such basic needs became the objective standard against which preconditions for a 'good' life could be measured.

However, in more recent times, people have developed new and complex needs that go beyond the need to survive, which traditional indicators do not sufficiently capture or measure (Diener & Ryan, 2009). Put differently, as societies have evolved, survival needs have been more easily met, and well-being appears to have become more important than economic matters (Diener & Seligman, 2009). Economists have predominantly used such economic indicators as a proxy for well-being. However, although objective measures such as GDP are testable and easy to operationalise and quantify (Moons et al., 2006), they are not ideal (Cummins, 2000) and generally count as poor indications of a country's well-being (Kuznets, 1934). Economic measures may overlook other equally important conditions of human lives related to freedom, democracy, social capital or work conditions that are not apparent from economic indicators

(Diener & Seligman, 2009). Such indicators do not communicate how people feel about their lives (McAllister, 2005).

For example, economic growth reflected in increases in traditional monetary indicators (such as GDP) over recent decades in some countries has not translated as expected into higher SWB (Easterlin, 1974, Easterlin, 1996, Wu & Li, 2013, Easterlin, 2016). The facts that partly explain this effect include growing GDP per capita often unequally distributed among people, widening inequalities and increasing social exclusion (for example, as has occurred in the US) (Nikolaev, 2013). In some countries (e.g., the UK), instead of leading to improved lives, economic growth has led to increased mental problems, such as depression (Layard, 2005). This is because as countries develop economically, people expectations often rise too. If such higher expecations are unmet they will become a source of disappointment. Over time, some economically emerging countries (such as China) have recorded stagnant levels of SWB, due to deterioration of social capital or through rising distrust, despite their economic growth (Helliwell et al., 2014, Bartolini & Sarracino, 2015). Therefore, such evidence casts doubt upon the traditional economic assumption that more income will contribute to increased well-being (Bjørnskov et al., 2008b), suggesting that there is more to a happy life than income (Van den Bergh, 2009).

Economists increasingly recognise that although insightful, traditional measures cannot fully capture country and societal progress (Stiglitz et al., 2009, Dolan et al., 2011, Odermatt & Stutzer, 2017). As a response, some scholars have started to propose SWB as a complement to the economic indicators traditionally used to measure a country's progress, to obtain a more complete image of that progress (Easterlin, 1974, Diener, 2000, Veenhoven, 2002, Kahneman et al., 2004, Marks & Shah, 2004, Dolan et al., 2011). Measures of SWB are a quantitative approximation of welfare at an individual level (Odermatt & Stutzer, 2017), regarded as valid indicators of the quality of life (Shin & Johnson, 1978) from a point of view that differs from

the traditional economic view (Skoglund, 2017), as SWB measures reflect both perceived and actual quality of life (Nikolova, 2016). Scholars do not necessarily undermine the importance of traditional measures of a country's progress. Rather, they suggest that people are reliable and integral to understanding other aspects that are important for assessing their quality of life. SWB is also considered an important complementary analytical tool for better policy evaluation (Stiglitz et al., 2009, Dolan et al., 2011).

This chapter introduces the concept of SWB and describes the evolution of research about it in economics, which led to an emerging and rapidly growing sub-discipline, the so-called economics of happiness. The chapter also explains the philosophical theories of SWB and follows with a discussion of the relevance of SWB research. Then, the chapter presents the various ways of measuring SWB and offers a detailed clarification of its various components. This is useful because scholars tend to attach the label of happiness quite liberally to several SWB aspects that do not entirely equate to or measure the same thing. The second part of the chapter focuses on the determinants of SWB coming from research across diverse disciplines. Finally, the chapter summarises the literature review.

2.2. Evolution of the 'Economics of Happiness'

Up until five decades ago, economic research had developed in such a way that unobservable concepts relating to subjective judgments about the quality of life or standards of living were disregarded (Myrdal, 1962, Sen, 1980, Streeten, 1981). For instance, economists have traditionally excluded happiness from conceptual measures of a country's progress, considering the self-reported responses used to assess happiness as irrational and unsuitable for obtaining unbiased and robust results. In fact, the term 'subjective' was not within the scope of observable and measurable behaviours, and economists tended to avoid theorising about a 'subjective state of mind' (Sunstein & Thaler, 2003). As a result, mainstream economists relied

on the rational-choice theory to understand human behaviours, where revealed preferences and utility are core elements (Van Hoorn et al., 2010).

Utilitarianist economists initially developed the concept of utility. Bentham (1748–1832) and Mill (1806–1873) think of utility as an abstract concept, referred to as the pleasure determined by income (and consumption), leisure and a limited number of other factors. Economists saw no need to measure utility because it could be inferred from choices people make. Even if there were a point in measuring it, they felt that it was not possible (Nikolaev, 2013). The assumption that people obtained utility from consumption of goods, services and leisure supported the belief that an individual's rational economic behaviour aimed at maximizing that person's utility. Therefore, such economic behaviours could reveal people's preferences.

The revealed-preferences theory formulated by Samuelson (1938) prevailed throughout the twentieth century and argued that a stable or consistent set of preferences exists for each individual. The theory suggests that individuals make their choices for goods that will bring them the greatest utility, based on their preferences. More highly rated preferences correlate with a higher ranking on the utility scale (Hausman & McPherson, 2006, Adler, 2016). The rational choice framework posits that the things people do are indicators of what increases their utility, and the greater the utility an individual has, the more those preferences are satisfied (Ng & Tseng, 2008).

However, with the advances in behavioural economics, that mainstream economic approach became exposed to critique. For example, the prospect theory, developed by Kahneman and Tversky in 1979, claimed that making decisions under risk is influenced by inescapable biases (Kahneman & Tversky, 2013). Even though individuals may make decisions based on their preferences to maximise their utility, this does not always guarantee that their choices will bring them maximum utility (Read, 2007). For decisions based on preferences to

result in maximum utility, people must be perfectly rational, able to remember, predict their future preferences and possess all relevant information when choosing between alternatives (Kahneman, 2003).

However, people are prone to cognitive biases and often make suboptimal choices (Redelmeier et al., 1993). There is also a gap between how people feel about something or the value they place on it, and what they finally decide to do (Allais, 1953, Ellsberg, 1961). In addition, people are not only psychological, social and political beings; they are also very complex and multidimensional (Ostrom, 1991). This makes it difficult to justify an assumed rationality underlying the traditional economic view (Kahneman & Thaler, 2006). In summary, human nature challenges the propositional basis of the revealed-preferences theory and suggests the need for researchers to go beyond the principles underlying the theory.

The differences between economic decisions and people's feelings inspired behavioural economists to describe this type of utility as 'decision or expected utility', relating to the choices people make and fitting with the rational-choice framework. Its limitation is rooted in the inability to measure the alternative, unobservable 'experienced utility' (Kahneman et al., 1999, Kahneman & Thaler, 2006). This experienced utility is directly measurable through SWB measures that allow exploration of quality-of-life factors not directly observable in behaviour (Kahneman & Thaler, 1991).

With the emergence of Kahneman's notion of 'experienced utility' and the development of research in SWB, the measurement in the way Bentham originally suggested of the original hedonic conception of utility finally seemed a possibility (Kahneman et al., 1999, Kahneman & Thaler, 2006). Thus, the economic interpretation of SWB by utilitarianists is often associated with the term utility (Van Hoorn et al., 2010), and the proposed utilitarianistic goal is the need for governments to aim at maximising happiness (Helliwell et al., 2012). Kapteyn (1994), Van Praag (1999), and Van Praag and Frijters (1999) proposed SWB as a proxy for experienced

utility. Experienced utility has been used to assess the impact of economic conditions on individual SWB and has served as a guide for policy (Veenhoven, 2004). Substantial criticism has come from economists who generally consider utility immeasurable (Seidl, 1994), and some scepticism still remains within economics research about the use of subjective data to answer economic questions or inform policy (Johns et al., 2007, Wilkinson, 2007).

2.3. The Multidimensional Nature of SWB

SWB is a complex and multidimensional construct (Durand, 2015) that does not lend itself to easy definition. Being a multidimensional concept, a range of definitions and measures may appear useful for different purposes (Huppert, 2017). Diener and Ryan (2009) have defined SWB as people's judgment of their life as a whole, or of distinct life domains, as well as momentary affects that can be positive or negative. People make the judgement according to their own criteria. Based on Diener and Ryan's (2009) definition, SWB comprises at least two distinct elements: life satisfaction and positive and negative affects (known also as hedonic or affective SWB).

People's rating of their overall life, also known as life satisfaction, is the evaluative aspect of SWB. In psychological terms, this aspect of SWB is cognitive (Diener, 2000). To adequately evaluate life satisfaction, a person must be able to recall, assess and reflect on past experiences (Helliwell & Barrington-Leigh, 2010, Stone & Mackie, 2014) while taking into account the objective (Diener et al., 1985) and perceived circumstances, material or nonmaterial (Nikolova & Nikolaev, 2017). According to the Organisation for Economic Co-Operation and Development (OECD) (2013), cognitive evaluation of one's life can occur separately for the different individual life domains. Thus, a person asked about his or her satisfaction with income, health, family or job satisfaction could score high in one area (e.g. job or marriage) but low in another aspect of life (e.g. health) that may underlie reported low life satisfaction (Veenhoven,

2012). Therefore, despite the importance of individual aspects of life, an evaluation of life as a whole should give a more inclusive picture.

The hedonic or affective aspect of SWB captures the emotional-state component of SWB and relates to the everyday life experience of how it makes people feel (Skoglund, 2017), expressed in two different ways. First, it can be a lasting feeling—for example, the 'average amount' of moods and feelings experienced in a particular period of time, such as the last few weeks or months (Eid & Diener, 2004). This is called happiness and it refers to the situation in which one reaches equilibrium between positive and negative affects (Schimmack et al., 2002, Tov & Diener, 2009, Busseri & Sadava, 2011). The combination of these two notions is also known as 'affect balance' (Diener et al., 2010a), essentially a preponderance of pleasure and positive feelings over unpleasant feelings or pain (Ryan & Deci, 2001). Second, this affective component can be a person's momentary emotional state—for example, current mood or emotions, provoked by a certain activity. The feelings can be positive (such as contentment or joy) or negative (such as anxiety, fear, anger or sadness) (Larsen, 2009, Boarini et al., 2012).

Proposed recently is a new dimension called eudaimonic SWB (Stone & Mackie, 2014), which captures the contentment of a person, emerging from the successful accomplishment of his or her ambitions (Steptoe et al., 2015). It measures meaningfulness or purpose in life and it concerns the realisation or fulfilment of the human potential that people possess (Alexandrova, 2005, Dolan et al., 2008, Dolan & Metcalfe, 2012). This eudaimonic aspect of SWB is less established and less popular among researchers (Durand, 2015).

Scholars use the terms 'SWB', 'happiness' and 'life satisfaction' interchangeably. However, SWB is the broadest term and encompasses life satisfaction and happiness, which present distinct constructs and are related in a different way to the factors that influence them (De Neve & Ward, 2017). Therefore, SWB should not be examined with a single construct such

as happiness or life satisfaction (Huppert & So, 2013), and it is crucial to examine each aspect separately (Busseri & Sadava, 2011).

2.4. Philosophical Theories of SWB

The concept of SWB has captured and continues to capture both scientific and political interest, so the enormous body of research that it has generated is not surprising. In fact, some suggest that in its present form, the area of SWB research is 'over-researched and under-theorised' (Griffiths & Reeves, 2009). Often, SWB research in economics pays less attention to theoretical underpinnings, perhaps for a few reasons. First, theories are less central in applied quantitative research, and thus their role may also be less direct in SWB research that is often empirical in nature. Second, the philosophical theories are considered to be normative, as they are concerned with conceptualisation of SWB and correct specification of what makes for a happy life (Robeyns, 2006), without paying particular attention to whether such concepts are empirically measurable (Clark, 2008). Last, the topic is relatively new in economics, and well-being in a country has been inferred from purely economic measures (Easterlin, 2009).

The common classification of the few theories available includes hedonism, desire theory and objective-list theories (Crisp, 2017). The first two philosophical theories are considered subjective (Arneson, 1999), and subjectivism aligns with the preference-based view of mainstream economists. The subjective theory claims that a positive attitude is necessary and sufficient for an element to be important for SWB (Sumner, 1996, Woodard, 2013). According to hedonism, SWB is the balance of pleasant (pleasure) over unpleasant (pain) experiences. The more pleasantness one can pack into life, the better that life will be. Bentham's view of maximisation of utility is representative of hedonism. Next, in accordance with the desire theory, someone is better off to the extent that one's current desires are fulfilled (Griffin, 1986). Finally, objective-list theories claim that people could be irrational and uncertain about what is

good for them, and so it proposes a set of goods and activities that are objectively good for people. Objective-list theories claim that aspects of life, such as a certain amount of knowledge, moral goodness, the appreciation of beauty, close friendship and mutual love, are crucial for a happy life and not only the experience of pleasure (Nussbaum & Sen, 1993, Nussbaum, 2001, 2011). Therefore, SWB constitutes neither merely pleasurable experiences nor satisfaction of desire. The capability approach (discussed in the next section) is an example of these objective-list theories.

2.5. The Capability Approach

The capability approach emerged as a strand in welfare economics in the 1980s. However, its historical roots can be traced back to Aristotle, Adam Smith and Karl Marx, who express the view of 'flourishing life' (Nussbaum, 1999). Its current form was pioneered by the Nobel-winning philosopher-economist Amartya Sen and further developed and enriched by Martha Nussbaum (Alkire, 2015).

The capability approach places emphasis on a group of interrelated concepts, including capabilities, functionings, and freedom (Anand et al., 2005, Binder & Coad, 2011a). Functionings manifest as an individual's achievements or so-called 'being and doings' (situations/states and activities) that individuals value or find important. They can vary from quite elementary things, such as being sufficiently fed, to quite complex things, such as leading a political campaign (Alkire, 2008). In this context, SWB counts as one of the valuable functionings (Van Hoorn et al., 2010).

Capabilities are the available opportunities to people, which reflect a person's freedom to lead a life they value or want (Nussbaum & Sen, 1993). There is no limit to the number of capabilities, as they depend on the specific context in question (Alkire, 2015). However, Nussbaum (2001b) endorses a list of ten key capabilities, facilitating the selection of variables

to represent capabilities in empirical research. These capabilities have not only instrumental value—meaning that they are not only means to achieve an end—but also intrinsic value, as they are valuable in themselves (Nussbaum & Sen, 1993).

At any given time, the achievement of functioning is subject to the effect of conversion factors. From this perspective, a person's ability to convert what he or she possesses (the combination of capabilities, i.e. resources and opportunities) into a functioning (for example, SWB) depends on the specific circumstances (Stiglitz et al., 2009), such as physical, social and cultural contexts (Alkire, 2015). Mainly, there are three groups of conversion factors: personal features (for example, physical conditions, gender, age); social factors (such as social norms, public policies, discrimination practices, power relations); and environmental characteristics (including public goods and infrastructure). These differentiate people by determining the set of capabilities they require to achieve the same functioning (Goerne, 2010).

The capability approach stresses the importance of opportunities available to people for experiencing high levels of SWB rather than economic outcomes (such as GDP) (Veenhoven, 2000a). Thus the main focal point for governments should not be an increase of utility gained from resources (such as income, commodities and assets) (Nussbaum & Sen, 1993, Stiglitz et al., 2009, Nussbaum, 2011b, Alkire, 2015), as the resources are not always in and of themselves valuable, but serve as means for achieving other goals or objectives (Nussbaum & Sen, 1993). Proponents of this approach suggest that while material things are important for meeting basic needs and increasing material comfort for people, SWB depends not on possession of resources but on the value of what a particular resource enables a person to be or do (Sen, 1987). The measure of a country's progress should go beyond material things, because a happy life consists not only of meeting biological needs for food, water and shelter, but also in having other needs met, such as choice and freedom (Sen, 1987). The term 'freedom' denotes the absence of social constraints (i.e. discrimination, unreliable public facilities, social exclusion, ethnic tension, fear

of violence), which creates room for someone to enjoy capabilities and pursue the life he or she wants (Veenhoven, 2000a).

From among the theories available for studying SWB, the capability approach provides a suitable guide for theorising about this research. The capability approach is multidimensional and can capture the multiple functionings that a person may have, such as being happy, being healthy or being satisfied (Binder & Coad, 2011a). Thus, SWB reflect a summary index of various human functionings (Alkire, 2015). This contrasts with utilitarianism, which considers SWB mainly in terms of avoiding pain and maximising pleasure.[2] In addition, the capability approach is suitable because it reflects the notion of people's opportunities and choices to experience higher levels of SWB. People choose a way of living based on their preferences. Yet, in the context of Macedonia, Macedonians may have adjusted their preferences downward due to the less advanced conditions of life. According to the concept of 'adaptive preference formation' (Nussbaum, 2001a, Teschl & Comim, 2005, Sen, 2008), Macedonians may also accept their conditions as a happy life, even if this does not necessarily imply that the objective dimensions of happy lives are present. Analysing the SWB determinants through the theoretical lens of the capability approach should allow specification of the conditions under which people's lives in Macedonia could be improved.

2.6. The Relevance of Research into SWB

The economics of happiness has the potential to enhance awareness of the complexities of life, and what mechanisms can improve human lives. If happiness is an important goal of human lives (Aristotle, 340 BC), then revealing the determinants that are crucial for SWB is useful, as it may help the societies in which people live to support this aim (Nikolaev, 2013).

[2] Clark (2005) claims that there is an overlap between utility and functionings.

2.6.1. What Can Research on SWB Teach Us?

Perhaps the most prominent benefit of studying SWB from an economic perspective is a better understanding of influence on the economic determinants of SWB. One of the novel findings from SWB research is that nonmaterial factors, including social capital, freedom and social relationships, are an important aspect of people's lives. In fact, SWB researchers have revealed some nonmaterial circumstances of a happy life that are deemed of greater importance than its material aspects. Indeed, leisure was also known among mainstream economists as an important factor of utility; however, findings from SWB research suggest that countries possibly encounter greater trade-offs between leisure and income (or consumption), than was generally believed. In fact, the view that policymakers should aim at increasing economic performance, assuming that it will enhance SWB, has been challenged (Easterlin, 2005).

Apart from this, research in the SWB discipline has the potential to inform individuals about the SWB outcomes commonly derived from people's behaviours or actions they undertake. This can motivate people to make better choices and improve the quality of their lives, from which the society can also benefit (Diener & Ryan, 2009).

2.6.2. Why Do We Want to Increase SWB?

Although SWB matters to individuals as an end in itself (Huppert, 2017), it is also valuable from a country's perspective. Relatively high level of SWB often generates desirable outcomes, including economic ones. For example, SWB is found to be an indicator of longevity (i.e. happier people have better cardiovascular and immune systems, recover more quickly from illnesses) and higher life expectancy, as well as reduced suicide rate and health risk (Lyubomirsky et al., 2005a). In addition, happier individuals have better health (Danner et al., 2001) and lead healthier lives by exercising and participating in physical activities (Lox et al.,

2000, Audrain et al., 2001), have better eating habits and are less likely to adopt risky health behaviours (Howell et al., 2007, Diener & Chan, 2011, Sabatini, 2014).

In addition, happy people have been found to be more likely to find a job, get married (Stutzer & Frey, 2006), volunteer (Thoits & Hewitt, 2001), participate in political activities (Flavin & Keane, 2012) and have higher future high earnings and income (Marks & Fleming, 1999, Schyns, 2001, Diener et al., 2002, De Neve & Oswald, 2012). Moreover, happier people tend to have greater social skills, develop better quality of social relationships, maintain and build social capital and practice good social behaviour (Guven, 2011, De Neve et al., 2013).

The SWB of employees is a valuable matter for companies, as happy people also contribute to the performance of the company (Baard et al., 2004) through increased current productivity (Cropanzano & Wright, 2001, Zelenski et al., 2008, Taris & Schreurs, 2009) and long-term productivity (Fredrickson, 2001).[3] People with higher levels of SWB have been found to enjoy greater self-confidence and optimism that may direct them to pursue better opportunities (Madjar et al., 2002), to use creative approaches when solving problems (Amabile et al., 2005, George & Zhou, 2007), to make an effort to achieve set goals (Oswald et al., 2015) while being keen to collaborate and support their colleagues (Luo, 1999). Happy people are less likely to quit their jobs (Freeman, 1978) or go into early retirement (Oswald et al., 2015).

When it comes to SWB of the unemployed, the positive effect of increasing their SWB would prevent changes in the labour market. Low levels of SWB has an adverse effect on the motivation of the unemployed to actively look for a new job and discourages them from pursuing skill acquisition. The latter may translate into doing poorly at job interviews, decreasing the probability that they will be offered a job (Krueger & Mueller, 2011). Being

[3]Long-term productivity refers to how employees may create resources for completion of job-related tasks at a later time, as a result of new skills acquired and increased social capital on which employees may draw in subsequent performance (Fredrickson, 2001).

unemployed bears additional implications for future wages and chances of participation in the labour market (Powdthavee & Vernoit, 2012).

The future cost for the next engagement in the labour market is referred to as a 'scarring' effect (Petreski et al., 2016). The explanation of the 'scarring' effect lies in the human capital theory (Becker, 1964), according to which during the period of unemployment, the individual's skills and knowledge are devalued, resulting in decreased future productivity and reduced labour-market returns. Moreover, according to the signalling theory (Spence, 1973), information asymmetry affects employers hiring workers. Employers use information on unemployment, amongst other standards, to select the best candidates. Longer and more frequent periods of unemployment indicate limited productivity. Therefore, the long-term unemployed have less chance of being hired or are more likely to be offered a lower salary. This increases their probability of being unemployed for longer, and in the longer-term leads to the creation of a large supply of long-term unemployed, uncompetitive in the labour market (Korpi, 1997). Thus, the productive labour supply is reduced, wage levels are pushed up and a new equilibrium is established with a higher rate of unemployment (Layard et al., 2005).

These findings regarding the objective benefits of increased SWB further endorse its relevance. They suggest that governments should pay more attention to enhancing SWB by taking the concept of SWB into consideration when implementing policies, alongside other objectives, and when planning strategies for development of economic progress.

2.6.3. The Role of Governments in Promoting SWB

A large body of evidence supports the results from SWB research that convey policy-relevant information (Nikolova & Sanfey, 2016). SWB has been considered an extensive indicator for analysing economic and political performance in different countries. SWB can also prospectively predict voting behaviour (Ward, 2015). The appreciation of the benefits of

measuring people's SWB is increasingly gaining the attention of international organisations such as OECD, United Nations (UN), World Bank (WB) and European Commission (EC), which are regularly measuring SWB of people across nations (Graham & Nikolova, 2015). Some politicians also show initiatives in incorporating SWB into their agendas.

In January 2008, there was a meeting themed 'Commission of Economic Performance and Social Progress', chaired by the economist Joseph Stiglitz. The French president, Nicholas Sarkozy, together with five Nobel Prize winners, gathered at this meeting to discuss the quality of life as a more comprehensive notion than the living standards and economic production widely used in measuring economic and social progress. The Stiglitz Commission (2009) recognised that governments' strong focus on GDP, at the expense of other aspects important for quality of life, must be reconsidered. The Stiglitz Commission suggested that measuring SWB should be at the centre of public policy in the twenty-first century (Johnston et al., 2012). Similarly, the ex-UK Prime Minister David Cameron announced that increase in quality of life should be a prime goal of the government and happiness should serve as a measure of the country's progress, based on the results from a national survey that showed 81% of the citizens prefer 'greatest happiness' over 'greatest wealth' (Abdallah et al., 2009).

According to Sen (1980, 2008), the goal of political processes should be to set the stage for individuals to freely make choices from available capabilities, but the actual achievement of SWB depends on the individual. Thus, people should have the freedom to choose from different options that will allow leading lives they value (Sen, 2008). Similarly, Bjørnskov et al. (2008a) argue that if government's goal is to maximize SWB of its citizens, it should allow a high degree of personal freedom so that people can simultaneously enhance their SWB.

2.7. Measuring SWB

2.7.1. Subjective and Objective Measures

Although some economists were initially reluctant to rely on survey data to measure quality of life (Bertrand & Mullainathan, 2001, Durlauf & Blume, 2008), psychologists widely embrace self-reported measures and have further developed them (Campbell, 1981, Veenhoven, 1991, Fox & Kahneman, 1992, Veenhoven et al., 1993). They consider people to be the best judges of their own lives, and therefore the ones to be asked to determine how well they live (Shin & Johnson, 1978). Economists are now beginning to recognise that such measures add greatly to a more detailed understanding of the quality of life.

SWB survey questions allow direct measurement of one's quality of life by asking people how they feel about their lives (Alexandrova, 2005). Thus, assigning values to various experiences and life domains is the preserve of the individual in question (Alexandrova, 2005). SWB questions are in the form of a scale on which respondents rate their choices, choosing one point that best describes their life with respect to the described dimension of SWB. This method usually uses a ladder scale called the Cantril ladder (Cantril, 1965) where answers can be placed on a scale from 0 (or 1) to 10, where 0 is the lowest level and 10 represents the highest level. Alternatively, a five- or seven-point Likert style, following Likert's (Likert, 1932) response scale, can be used. The answers vary from the lowest level ('extremely unhappy' or 'unsatisfied with life') to the highest point ('extremely happy' or 'extremely satisfied with life'). Both approaches measure life satisfaction and happiness after they have been experienced.

Other less common methods focus on measuring feelings in real time or slightly after the event has taken place, and these are in a form of diary. The so-called experience-sampling and day-reconstruction methods are designed to collect data on SWB derived from a designated activity. They give information about how time is spent and how activities are rewarded (Diener, 2006). Because they are relatively more costly to conduct, they are less common, and none of

these methods has been used to measure momentary SWB among the representative part of the population (Stiglitz et al., 2009).

Although SWB is subjective as experienced by the individual, its manifestation can be assessed by using non-self-reported (i.e. objective) measures, including observation of nonverbal behaviour, facial expression, emotion-sensitive tasks or observer-rating reports (Diener & Ryan, 2009). However, it is worth noting that this objective way of measuring SWB is limited to measuring only its affective or experiential element (Kahneman & Riis, 2005). Therefore, the objective measures of SWB, although an important constituent, may serve as a contributing component to assessing SWB but cannot stand on their own (Alexandrova, 2005). This is because SWB is attached to perception, and therefore judging it cannot be done independent of an individual's view and evaluation (Alexandrova, 2005). In simple terms, listening to what people say is fundamental to measuring their happiness (Blanchflower & Oswald, 2004a).

2.7.2. How Reliable are SWB Data?

Measuring people's perception of their lives through surveys is subjective by nature. Therefore, the first question that arises is whether such self-reported answers are interpersonally comparable. Indeed, the way people answer SWB questions may differ with the respondent's mood at the moment of being interviewed (Dolan & Kavetsos, 2012). People may also answer in accordance with the socially desirable standards, and their answers may be influenced by the interpretation of those answers in line with their cultural backgrounds (Ye et al., 2015). Such concerns regarding the cultural influences on SWB answers are more important when data are used in studies comparing countries or periods of time, as people's views on what happiness

means to them can change.[4] However, it should be less of a concern for a researcher who aims to estimate the averages across a single society (Nikolaev, 2013).

Furthermore, SWB answers can be affected by external events. When people evaluate their lives, the assessment includes emotional responses to events during the interview (Ferrer-i-Carbonell, 2005). Additionally, self-reported answers are potentially affected by the way the survey is conducted; for instance, an interviewee may give a more positive answer on the phone than when asked in person (Dolan & Kavetsos, 2012). Answers may also vary with the order or phrasing of the question (Schwarz & Strack, 1999). Answers to SWB questions can differ depending on the month, day or part of the day when the interview is carried out, as well as whether others are present. For example, in the presence of other people, the reported SWB is reduced (Kavetsos et al., 2014).

Although its subjective nature makes SWB data more difficult to directly validate, scholars have indirectly tested and addressed these potential problems. They have found that measures of SWB are reliable, valid (Diener et al., 2013a), psychometrically sound (Diener, 2012), internally consistent (Diener, 2000), comparable across countries and stable over time (Krueger & Schkade, 2008, Helliwell & Barrington-Leigh, 2010, Diener et al., 2013b) and thus appropriate for economic analysis. For example, Exton et al. (2015) claim that the role of culture in answering SWB questions is limited. Self-reported answers are also found to be consistent with other measures of SWB more objectively determined. For instance, people who report high levels of SWB are observed to be cheerful and smiling more often (Fernández-Dols & Ruiz-Belda, 1995), are seen as happy by other people (McCrae & Costa, 1989, Sandvik et al., 1993), sleep better (Kahneman & Krueger, 2006), and have lower suicide probabilities (Helliwell,

[4] People from the US often inflate their assessment of SWB, reporting levels very close to the highest. In contrast, in East Asian countries, e.g. Japan, modesty is a core social value and individuals should not brag their level of SWB as that is considered evidence for lack of good manners (Mathews, 2012). An additional example is provided by Oishi and Diener's study that focused on students. They found that Europeans studying at the University of Illinois, US, had overestimated the volume of work in which they had been involved in a week earlier, while those from Asia had underestimated the number of tasks (Oishi & Diener, 2001).

2007). Validity is also assessed in part by considering the patterns of correlations with other external characteristics, such as unemployment and marriage (Kahneman et al., 1999), or macroeconomic indicators, such as GDP and income inequalities (Alesina et al., 2004).

Some of the reasons that economists were initially reluctant to accept SWB data are three problems that arise when using them in empirical analysis: ordinality problems, scaling problems, and omitted-dispositions problems (Clark & Oswald, 2002). However, researchers address the ordinality issues by considering the SWB variable as ordinal and using ordered logit and probit regressions, instead of OLS. Yet, Ferrer-i-Carbonell & Frijters (2004) show that using any of these methods does not produce largely different results.

The scaling problem refers to an individual's different use of response categories. People have their own perception of assessing and placing their happiness on the scale—that is, what is rated 3 for one person might be 4 or 5 for another. To diminish the consequences of these problems, researchers include an error in the regression equation to capture the possible measurement error in people's answers (Clark & Oswald, 2002). SWB data are mainly used to examine determinants of SWB, rather than for comparison of levels in absolute terms. For this reason, Frey (2008) claims that it is not compulsory to assume that SWB data are interpersonally comparable or cardinally measurable.

Finally, the omitted-dispositions problem derives from criticism of the reliability of self-reported data influenced by innate personality traits. Indeed, research in psychology shows that personality is one of the strongest predictors of SWB, and each personality type is sensitive to different stimuli (see section 2.8.3.2.). Thus, individuals may respond and feel differently about the same life experience (Lykken & Tellegen, 1996). Panel data allow addressing the omitted-dispositions problem by using fixed effects, and thus controlling for the unique genetic and personality differences of each individual by adding a dummy variable in the empirical models for each respondent (Clark & Oswald, 2002). Even though controlling for personality traits in

cross-sectional data is not possible, Clark and Oswald (2002) show that cross-sectional data produce similar results to those obtained from panel data.

In sum, despite the challenges inherent in their nature, SWB data offer information about the quality of life that traditional metrics cannot fully provide. SWB metrics are promising for informing policymakers about country progress and considered to be complementary indicators in measuring societal progress (Hicks et al., 2013). It is no surprise then that SWB measures have increasingly become part of official national or international surveys constructed by leading economic institutions such as OECD, WB or EC, placed alongside more objective indicators in an attempt to provide a more comprehensive image of human conditions (Graham & Nikolova, 2015).

2.8. Determinants of SWB

The literature on determinants of SWB is vast, and it is impossible to make reference to all the existing studies. A large set of determinants has been investigated to explain variation in SWB levels. The most popular or the most cited studies are summarised below. The factors that influence SWB around the world are separated into two groups: individual and country-level determinants.

2.8.1. Individual-Level Determinants

Alongside specific questions tailored to assess SWB, surveys such as World Gallup Poll, Eurobarometer, EQLS, European Social Survey (ESS) and European Values Survey (EVS) also collect personal background information relevant for SWB. The groups of individual-level factors repeatedly found to affect SWB consist of socio-demographic determinants (e.g. age, gender, marital status), health and economic determinants (e.g. the labour-market status of the

respondent's household or personal income) (Diener et al., 1997). An explanation of each follows.

2.8.1.1. Age

Age is always included in SWB studies, even if the main focus is on different variables. Most studies find a nonlinear relationship between SWB and age that follows a U-pattern. SWB seems to decrease as age increases, reaching a minimum at middle age (35-50), after which SWB starts to go up again (Oswald, 1997a, Frey & Stutzer, 2002, Alesina et al., 2004, Easterlin, 2006, Ball & Chernova, 2008), regardless of the respondent's gender (Blanchflower & Oswald, 2008). However, Hellevik (2017) finds that the U-shape holds for life satisfaction only, whereas happiness tends to decline with age. The evidence of a U-shape is obtained by a fitted quadratic function (Cheng et al., 2017), from a model that includes an age-squared variable alongside age as a continuous variable (Kroll, 2011).

Several reasons have been provided in an attempt to explain the existence of the U-shape pattern of SWB over the lifespan. For example, at the beginning of their careers, individuals acquire a certain social status that exposes them to stress and social pressure (Schwandt, 2016). This decreases their SWB until they reach the very minimum levels of SWB, often as a result of unaccomplished ambitions (Schwandt, 2016). After midlife (and lowest SWB point), people adapt to their strengths and weaknesses, give up unrealistic expectations and start to abandon their initial aspirations. Their SWB then begins to rise. In the next period of their life, people compare their current situation with their reference group, whose members at older ages have more health problems or even pass away. Thus, unhappy individuals eventually learn to enjoy the remaining years of their lives (Blanchflower & Oswald, 2008).

While the U-shape seems to exist in high-income and English-speaking countries, scholars find that SWB decreases monotonically with the process of ageing in less developed economies (Graham & Chattopadhyay, 2013), middle-income countries (Deaton, 2008), and transition

countries (Guriev & Zhuravskaya, 2009). A possible explanation for such an observation, especially in transition countries, is that elderly people are accustomed to living under a different regime that provided security (for example, in matters of income or health insurance). After the transition, people must adapt to new conditions that they often find unfamiliar, which creates stress and worries (Steptoe et al., 2015).

2.8.1.2. Gender

With regard to the effect of gender on SWB, universal conclusions cannot be drawn. The various findings seem to depend on the level of development of the country and the role of gender in a particular society. The gender rights that women enjoy vary with social norms and expectations placed on them, important factors for understanding the gender differences in SWB (Lalive & Stutzer, 2010, Graham & Chattopadhyay, 2013, Lima, 2013). OECD (2011) cites evidence that females tend to experience higher SWB compared to males in OECD countries and around the world, except for women in low-income countries and those with fewer rights due to gender (Graham & Chattopadhyay, 2013).[5]

However, women's SWB has been found to decline in the US (Stevenson & Wolfers, 2009), even though the rights of women have improved over time. One of the possible explanations for the declining trend in women's SWB may be the pressure and burden that women feel from life after receiving treatment equal to that afforded to men, as well as from the rising expectations placed on them (Sousa-Poza & Sousa-Poza, 2003). Indeed, Kahneman and Deaton (2010) found that women experience higher stress and more negative emotions than their male counterparts.

[5] In addition, in low-income countries, women share more pessimistic views about their future (Graham & Chattopadhyay, 2013).

2.8.1.3. Marital Status

Regarding marital status, research seems to have reached conclusive findings that SWB levels tend to be higher among married people than among single, widowed or divorced people (Coombs, 1991, Shapiro & Keyes, 2008). In addition, although partnered individuals experience higher levels of SWB than single people, such gains are noticed between married couples when compared to couples that simply cohabit together (Shapiro & Keyes, 2008, Chen & van Ours, 2018). However, others find that marriage and cohabitation have similar effects on SWB (Stack & Eshleman, 1998, Kohn & Averett, 2014), because what is important for SWB is the close and stable relationship between partners and not whether the couple is married (Brown, 2000).[6]

The reasons for the positive contribution of marriage to increased SWB are many. Married people enjoy intimacy and commitment (Ross, 1995, Dush & Amato, 2005). They also benefit from having a 'friend' who helps improve their social integration and interpersonal communication. Additionally, married people enjoy companionship, care and support from their partner in difficult times and prevent loneliness (Chen & van Ours, 2018). Marriage is likely to allow for gaining economies of scale from resources, efforts, and investments in offspring that are jointly combined (Waite & Gallagher, 2002, Killewald, 2013).[7] Couples may benefit from 'production complementarities' (Stutzer & Frey, 2006), as well as 'consumption and investment complementarities' (Lundberg & Pollak, 2015). Furthermore, marriage may lead to 'social control and mutual supervision' of the couple's SWB (Chen & van Ours, 2018). Similarly, married people often (especially married men) experience less stress than their single counterparts (Stack & Eshleman, 1998), as their spouses offer emotional support and help them to manage stressful daily situations (Coombs, 1991, Argyle, 2013). Besides the benefits

[6] Similarly, having regular sex especially with the same partner has positive effects on SWB (Blanchflower & Oswald, 2004a).

[7] Marriage also affects children's' SWB. Children's SWB later in life seems to be negatively affected by the divorce of their parents, even when the parent remarries. SWB reduction among children is greater if the remarriage happened after a death than after a divorce (Biblarz & Gottainer, 2000).

provided by the spouse, married people gain support from family and friends of their partner (Ross, 1995, Dush & Amato, 2005). However, the positive effects of marriage on SWB are only evident when the marriage is a happy and successful one (Wildman & Jones, 2002, Myers, 2003, Chapman & Guven, 2016).

2.8.1.4. Children

The effect of children on SWB is not clear. At the higher cognitive level, children are a crucial aspect of the overall SWB of their parents. Thus, children increase parents' life satisfaction by creating strong and close family links (Buss, 2000). Moreover, SWB derived from having children is higher amongst older parents, those who delayed childbirth and people with a higher education. One study asserts that 'own children' contribute more to higher SWB than the adopted ones (Rogers & White, 1998). Cetre et al. (2016) claim that the impact of children on SWB varies across populations and changes in line with national and individual income. For example, children have a positive and strong impact on parents' SWB once the model accounts for equalised income that considers the size of the family (Lelkes, 2006).

Clark and Oswald (2002) find no contribution of childbearing to SWB of parents, as couples are happier before having children or after the children leave the house (Pouwels, 2011). Similarly, parental SWB in the UK and Germany rises to the point of the birth of the first baby and later falls to the same levels as before having a child (Myrskylä & Margolis, 2014). A possible explanation for this can be the model of contemporary society where the workplace, rather than the children may generate human relationships and meaning of life to individuals. In addition, on a daily basis, children tax their parents' emotional state and therefore do not bring happiness (Haller & Hadler, 2006).

Evidence also exists for the negative effect of children on parental SWB. For example, due to a period of transition and adaptation from being couples to becoming parents, people

often experience a fall in their SWB (Margolis & Myrskylä, 2015). Alesina et al. (2004) claim that SWB of the parents can decline due to having children if the family faces financial problems. In addition, children can negatively influence SWB in the context of other unpleasant circumstances, such as a divorced mother (Schoon et al., 2005) or a single parent (Frey & Stutzer, 2000), when the child needs more care due to illness (Marks et al., 2002). Moreover, having children may negatively affect parental SWB in situations where the family has moved to a new place (Magdol, 2002).

2.8.1.5. Education

The relationship between SWB and education seems to vary. Nikolaev (2016) shows that the effect on SWB may differ depending on the social context in which education happens. Thus, education seems to be of greater value for SWB in low-income countries than in high-income economies (Fahey & Smyth, 2004, Ferrer-i-Carbonell, 2005). Other studies show that the effect of education depends on the empirical models used to analyse the data. For example, the effect of education on SWB is stronger when the models do not account for other variables related to education, such as income (Gerdtham & Johannesson, 2001, Bukenya et al., 2003). Additionally, fixed-effect models tend to find no significant effect of education because they control for unobserved heterogeneity, and education may relate to unobserved personality characteristics, such as a person's motivation or intelligence (Dolan et al., 2008).

While higher educational levels generally make individuals happier (Blanchflower & Oswald, 2004b, Bjørnskov et al., 2013), Stutzer (2004) finds that people with a middle educational level obtain the highest SWB. Even though higher education increases the probability of having a better job, and therefore a higher salary (Becker, 1964), it raises expectations about the job or the life one should have and how much one should earn, and can lead to disappointment in cases where such aspirations are not met (Clark, 2018).

2.8.1.6. Employment status

The relationship between employment activity and SWB is a complex one. While psychologists claim that people enjoy their job as they derive utility from it (Hinchliffe, 2004), the neoclassical economic theory of labour supply suggests that individual utility is an outcome of work and leisure (Killingsworth & Heckman, 1986, Pencavel, 1986, Rätzel, 2009) and people seek to balance work and leisure to gain maximum utility (Gronau, 1977, Bryson & MacKerron, 2017). For those who are employed, free time is limited, and they may lack it (Layard, 2011). Because work reduces leisure time, people get paid for working because they sacrifice their leisure. On the contrary, the unemployed have free time in abundance, and although it means freedom for them to engage in activities that fulfil their lives and bring them SWB, free time becomes a concern because having no job and not working may lead to boredom (Argyle, 2013). Knabe et al. (2010) find that the value assigned to leisure depends on whether a person has a job, and leisure activities bring more enjoyable time to the employed. Therefore, the effect of being employed is more relevant than having more leisure, and thus the unemployed experience a decrease in SWB, the so-called 'saddening effect' (Knabe et al., 2010). In fact, when people lose their job, the gain in leisure time does not seem to mitigate the negative consequences of income loss.

Another theoretical explanation for the effects of employment activity on SWB is provided by the latent-deprivation model (Jahoda, 1982), according to which employment is a source of two types of benefits: income and satisfaction of psychological needs, such as time structure, social interaction outside of the family, being engaged in a collective purpose, undertaking purposeful activities, sense of identity and social status. Even though the unemployed may become engaged in some activities that can meet some of their needs, only being employed can provide access to all of them and, in combination with the financial benefits, contributes to high levels of SWB (Jahoda, 1982).

The relevance of employment to SWB has been confirmed in numerous studies where the employed report significantly greater levels of SWB compared to the unemployed. Being employed has benefits to the individual that go beyond the economic ones. Even after accounting for the differences in socio-economic determinants and income levels, the unemployed remain less happy (Layard, 2011, Stutzer & Frey, 2012, Argyle, 2013). This is not surprising, given that jobs are not only the main source of income, from which people can pay for important services such as health insurance and later in life, pensions (De Neve & Ward, 2017). The employed also may have a relatively high sense of contributing to society and benefit from establishing social contacts through interactions with colleagues (Layard, 2004). This suggests that aside from the monetary compensation for skills and time spent with the workplace people, people accrue other benefits relating to their SWB from their jobs. For example, jobs bring some structure into the day, offer opportunities for social interactions, and give people a sense of purpose by contributing to the society (Layard, 2006).

Participation (or nonparticipation) in the labour market also influences the way people spend their time. Specifically, working people spend a substantial amount of their lives at their workplace, whilst jobless people considered a part of the labour force often invest their time looking for jobs (Bryson & MacKerron, 2017). Scholars have examined aspects of employment activities to study their effect on SWB. For example, some jobs, such as a managerial job, are considered demanding in terms of responsibilities and time and may have a negative effect on SWB due to increased stress or reduction in the individual's leisure time (Argyle, 2013). Layard (2005a) finds that job security and good working conditions are crucial for employee SWB. A working environment that supports autonomy, relatedness and competencies while simultaneously providing conditions that create less stress foster greater SWB (Baard et al., 2004). The employed are more likely to experience higher levels of SWB in situations where they have good quality relations with their co-workers, their expertise meets job requirements

and they receive adequate supervision but at the same time have the freedom to make their own decisions (Layard, 2004).

Part-time jobs lead to lower SWB for males but higher SWB for females (Clark et al., 2001), because part-time jobs enable women to combine their time spent in career with care for family (Schoon et al., 2005). Moreover, self-employment correlates with higher levels of life and job satisfaction in OECD countries (Blanchflower & Oswald, 1998), transition countries (Sanfey & Teksoz, 2007), the US (Graham, 2004) although this holds only for the rich in the US and Europe (Alesina et al., 2004). Besides the effects of one's job on SWB, the distance from home to work and back is also a determining factor. SWB of commuters traveling longer distances is reduced, as commuting consumes time and money, negatively affecting both the SWB of the employee and the rest of the family (Stutzer & Frey, 2008).

The positive effects that employment has on SWB lead to unhappiness of those without a job (De Neve & Ward, 2017). When someone is unemployed, failure to satisfy main needs occurs as the person loses the benefits of employment. Thus, the latent-deprivation theory considers unemployment a source of psychological stress, assigning secondary importance to the effect of loss of income (Jahoda et al., 1971, Jahoda, 1982). The unemployed have been found to experience disappointment and reduced social relations (Oswald, 1997b). Other identified effects are often associated with the absence of a routine and purpose (Ritzen, 2015), missed opportunities for engaging the brain and connecting with colleagues (Oswald, 1997b), and financial concerns, inability to find a job and difficulties in maintaining status and self-esteem (Schneer, 1993), all of which have negative psychological health effects on individuals.

The unemployed have been identified as relatively unhappy (Blanchflower, 2001, Di Tella & MacCulloch, 2004). Aside from the income loss that leads to possible financial instability and an uncertain future, there are non-pecuniary adverse consequences for SWB of the unemployed (Wildman & Jones, 2002). In fact, if unemployment reduces SWB only because of

the loss of income, then benefits that compensate for the salary loss could have maintained the SWB level. However, compensation for being unemployed is not enough to neutralize all negative effects of unemployment (Winkelmann, 2014). The psychological impact on people is much stronger than the impact of income loss (Ervasti & Venetoklis, 2010). Furthermore, the negative effect of unemployment on SWB is greater than that of worsening health conditions (Clark & Oswald, 1994), and three times greater than the effect of mental distress (Winkelmann & Winkelmann, 1998).

The reasons for reduced SWB are numerous. Unemployment reduces self-esteem and self-respect by creating a feeling that losing one's job discredits all efforts (Layard, 2004, Stutzer & Frey, 2012), resulting in motivational failure and no sense of identification in society (Winkelmann & Winkelmann, 1998, Creed & Muller, 2006) or life purpose (Clark et al., 2010). The unemployed often experience poor time organisation, use their time for less meaningful activities (Wanberg et al., 1997) and participate less in social activities (Jackson, 1999, Waters & Moore, 2002), which reduces human relations (Clark & Oswald, 1994, Clark & Oswald, 2002, Argyle, 2013).

However, the damaging effects of unemployment on SWB may vary, depending on several moderating factors: the duration of unemployment, social norms, labour-market policies, social capital and psychological resources (Winkelmann, 2014). For example, the longer the duration of one's unemployment, the lower the level of SWB (Blackaby et al., 2012). The length of unemployment partly depends on how painful the experience of being unemployed is, which the social norms in the particular society also determine. Social norms determine the reference group to which unemployed individuals' compare themselves (Knabe et al., 2010); hence, unemployment hurts less when the unemployment rate in the reference group is higher (Clark, 2003). This motivates the job-search behaviour of the unemployed (Mavridis, 2010). High unemployment reduces the strength of work social norms, so the

unemployed do not differ much from the reference group and, therefore, suffer less. In contrast, people who live in countries with high incomes may suffer more when unemployed (Fahey & Smyth, 2004).

Labour-market policies, such as unemployment benefits, are also important. If the unemployed perceive the social-protection system as unreliable, the SWB of the unemployed can drop significantly (Winkelmann, 2009). The stock of social capital can aid the reduction of negative consequences of unemployment for SWB. Finally, psychological resources are linked to the personal failure that the unemployed feel. More sensitive people are more vulnerable to unemployment and, thus, have a sharper and longer decline in SWB (Boyce et al., 2010). Other, less sensitive people among the unemployed may believe that what happens to them is because of uncontrolled external factors and that they have no responsibility for their life (Boyce et al., 2010). They may thus have less decline in SWB.

The employment status of an individual therefore is one of the determinants that shows a clear relationship with SWB. While there is widespread consensus amongst SWB scholars about the reasons for SWB differences between the employed and the unemployed, relatively little is known about whether the employed and the unemployed also differ in the way the same socio-economic factors affect their SWB. This relative lack of evidence seems particularly pronounced in transition countries.

2.8.1.8. Health

With respect to self-reported health, the literature predominately finds a strong relationship with SWB, which is robust to the inclusion of many other determinants (Graham, 2008, Veenhoven, 2010). People with better health tend to report higher SWB compared to people who have bad health. The effect that health has on SWB is twice as strong as the impact of many other correlates (Palmore & Luikart, 1972). Individuals with good health can cope

better with problems and enjoy life (Blackaby et al., 2012). Unhealthy people are restricted in their daily functioning. Suffering from illness and mental problems brings people stress, fear, dissatisfaction and depression, all of which negatively impact SWB (Layard, 2011). Not surprisingly, as people get older and their health deteriorates, those conditions prevent engaging in activities that could possibly enhance their SWB. This is particularly evident in less-developed countries where people have more health problems later in life due to their lifestyle, but also due to lower quality of health systems (Deaton, 2008), which may partly explain why SWB is constantly decreasing with age in such countries. Therefore, investing in good health, such as exercising, is important for increasing SWB. Even small physical activity (such as gardening) has been found to improve SWB (Ferrer-i-Carbonell & Gowdy, 2007). Such physical engagement can especially benefit people over 60 because it decreases depressive symptoms (Baker et al., 2005). People with serious illnesses, such as heart attack or stroke, repeatedly report lower levels of SWB (Verbrugge et al., 1994, Shields & Price, 2005) because over time, people never entirely adapt to their state of illness or disability (Oswald & Powdthavee, 2008).

2.8.1.9. Religion

Findings from research on SWB and religion suggest that religious people tend to report higher SWB compared to non-religious people (Ellison, 1991), regardless of which religious faith they belong to (Helliwell, 2003, Helliwell, 2006). The positive association is however stronger in Europe and the US (Helliwell & Putnam, 2004). Moreover, evidence suggests that regular engagement in religious activities (Clark & Lelkes, 2005, Hayo, 2007) as well as frequency of prayer and prayer experience are statistically significant predictors of SWB

(Poloma & Pendleton, 1990). The frequency of church attendance has been found to be of importance of SWB in Eastern Europe (Hayo, 2004), and weekly attendance (Helliwell, 2003) or at least once a month (Clark & Lelkes, 2005) is enough for SWB to be affected. A study by Dehejia et al. (2005) reports that church attendance reduces the influence that income has on SWB, which is particularly pronounced in African American respondents.

2.8.2. Country-Level Determinants

Thus far, the various individual-level determinants found in SWB research to be important for SWB have been discussed. This section provides an overview of the aggregate-level factors, such as macroeconomic (e.g. national income, inequality, unemployment), institutional, environmental and cultural factors, because they are integral parts of each person's life and thus affect SWB. These country-level determinants are also found to contribute to a better understanding of the SWB differences between countries. Therefore, insights regarding the macro-level factors may pave the way for policy makers to take necessary measures if they want to heighten SWB of their citizens and mitigate the SWB differences across countries.

2.8.2.1. Income

Given over four decades of interest among economists in the research on SWB, economic factors are the ones that we know most about, with the national-level income, GDP per capita, the most prominent factor. SWB research particularly attracted the attention of economists with Easterlin's seminal work in the 1970s, which came to be known as the Easterlin paradox. He found that the average SWB in the US remained constant over time, despite the rising GDP per capita (Easterlin, 1974). The main explanation he provides refers to the fact that improved economic conditions may lead to higher aspirations among people, which when unmet become a source of disappointment and unhappiness (Easterlin, 2009). Growing income in the US also

has created greater income inequalities, making people envious and unhappy (Nikolaev, 2013). However, transition countries are an exception to the Easterlin paradox, and trends of SWB levels are strongly related to GDP trends, both long and short term (Bartolini et al., 2017).

The Easterlin paradox resulted in continued debate among scholars of whether an optimal level of GDP exists, beyond which an increase in income is not accompanied by a rise in SWB. For example, Stevenson and Wolfers (2008) re-evaluate Easterlin's paradox and find that economic growth leads to a continuous increase in SWB across all countries, including the developed ones, within countries and over time (Sacks et al., 2010, Diener et al., 2013b, Veenhoven & Vergunst, 2014). Other scholars claim that the positive effect of GDP per capita is evident even after controlling for a wide range of other variables (Fahey & Smyth, 2004, Diener et al., 2009). Its effect is stronger on life satisfaction than on happiness (Diener et al., 2010b) and stronger in rural areas in post-transition countries in Europe (Grimes & Reinhardt, 2015).

According to Easterlin (2002), however, it is only at a particular point in time (in the short term) that SWB and GDP grow together. In the long term, further economic progress helps to sustain social status, rather than enhance SWB of the population in a particular country. This corroborates Scitovsky's (1976) view that after a certain level of material comfort, further wealth does not increase SWB, but many other factors play an important role in achieving a good quality of life. In nations with a higher rate of economic development, SWB does not differ significantly from countries with slower GDP growth (Easterlin, 2016).

However, scholars agree on an individual's income being a strong predictor of SWB within a country. Rich people are on average happier than their poor counterparts within the same country (Gardner & Oswald, 2001, Sacks et al., 2010, Easterlin, 2016) because consumption possibilities depend on the level of personal income (Bjørnskov et al., 2008a).

2.8.2.2. Inequality

The generalisability of the majority of the published research on the effect of inequality on SWB is not straightforward. In some countries, the relationship is negative, while in others, income inequality has an increasing effect on SWB or no impact at all. The effect seems to depend on the level of social mobility (Bjørnskov et al., 2013), the additional controls such as GDP included in the models (Alesina et al., 2004, Wilkinson & Pickett, 2009, Oishi et al., 2011) and the countries included in the sample (Fahey & Smyth, 2004, Haller & Hadler, 2006).

In some instances, income inequality among the population decreases SWB (Oshio & Kobayashi, 2010) because it has a psychological cost for people (Wilkinson & Pickett, 2010) as they become envious of others who are better off (Hagerty, 2000, Fahey & Smyth, 2004). For example, in Latin America, inequality was found to be negative for the SWB of poor people, as it signalled injustice in notoriously inadequate public and labour-market institutions (Graham & Felton, 2006). Similarly, Alesina et al. (2004) find that inequality led to unhappiness among the poor in Europe and those placed to the left on the political spectrum. Interestingly, in the US, the rich rather than the poor are more concerned by inequalities, because the chances to get poor people out of poverty are less when all people are equally poor within society. For example, as social mobility in the US is higher, individual effort can move people along the income scale, so rich people fear losing their relatively good social position in the society (Alesina et al., 2004). This means that wealth disparities can signal future opportunities (Bjørnskov et al., 2013) and mobility (Berg & Veenhoven, 2010, Rözer & Kraaykamp, 2013). However, such a negative effect is not always evident (Zagorski et al., 2014). In the US, SWB of the poor and those who are politically oriented toward the left does not correlate with inequality (Alesina et al., 2004).

2.8.2.3. Aggregate Unemployment

In addition to the effects of personal unemployment on SWB, unemployment at macro-societal levels also has consequences for the whole society (Di Tella et al., 2001, Wolfers, 2003, Blanchflower & Shadforth, 2009). Ohtake (2012) reviews the ways in which the aggregate levels of unemployment decrease the national average level of SWB. First, an increase in the number of the unemployed means a decrease in the number of people with relatively high levels of SWB. Second, the increase in aggregate unemployment decreases the levels of SWB of the employed due to increased fear of losing their job. In other words, high unemployment contributes to high levels of anxiety and stress from increased economic insecurity and vulnerability (Wolfers, 2003).

The detrimental effect of unemployment appears regardless of the period of time, data, and methods used, and it holds across countries, e.g. the US and the UK (Blanchflower & Oswald, 2004a), Latin America (Graham & Pettinato, 2001), South Africa (Kingdon & Knight, 2004), Switzerland (Frey & Stutzer, 2000), Germany (Winkelmann & Winkelmann, 1998), Eastern European countries (Hayo, 2007) and other European countries (Darity & Goldsmith, 1996).[8]

While this negative relationship seems firmly established, a study by Eggers et al. (2006) find a surprising positive correlation between the rate of unemployment and SWB of both unemployed and employed in Russia in the period 1995–2001. SWB of people increased by 2% for each percentage point of rise in the regional unemployment rate. These contrasting results are explained by the comparison effect. People tend to lower their expectations and perceive their lives as better compared to people who have lost their job and experience the undesirable economic situation. Similarly, Clark (2003) finds that in regions with high rates of

[8] However, once controls for national income has been added to the models, Rehdanz and Maddison (2005) find that the effects of unemployment on SWB are no longer statisticcally significant.

unemployment, the unemployed do not necessarily have low levels of SWB, due to a comparison of their situation with the other unemployed around them.

2.8.2.4. Institutions

SWB benefits from sound institutional frameworks (Bjørnskov et al., 2008a, Altindag & Xu, 2011), from which citizens derive additional support as an integral part of the societies in which they live. When a certain level of economic wealth is already achieved and basic needs are met for the majority of the population, people begin to attach value to human rights, freedom, equality and democracy (Knutsen, 2008). For example, quality of the legal system (Graafland & Compen, 2012), good-quality governance (Ott, 2010, 2011, Graafland & Lous, 2018) and economic freedom (Nikolaev, 2014) promote higher SWB. if people perceive the government as an ineffective institution, increased government consumption reduces SWB (Veenhoven, 2000b).

Bjørnskov et al. (2008a) conclude that institutional conditions influence the SWB of people in each country, but their importance is linked to the degree of their development. Ovaska and Takashima (2006) find that only economic institutions matter for SWB, while Nikolova (2016) finds a positive but small effect of the rule of law (as a proxy for political institutions) across the world. People living in high-income countries care more about the legal system (Rode, 2013) and political institutions (Veenhoven, 2000b, Helliwell & Huang, 2008, Bjørnskov et al., 2010). On the contrary, economic institutions (Veenhoven, 2000b, Helliwell & Huang, 2008, Bjørnskov et al., 2010) and electoral democracy (Rode, 2013) account for SWB of people living in less-developed countries.

Similarly the positive impact of the economic index holds across countries (Azman-Saini et al., 2010), but the effect is stronger in poorer countries (Gehring, 2013). Other studies find no significant effect (Inglehart et al., 2008) or even a negative effect (Bjørnskov et al., 2008a,

Graafland & Compen, 2012) of economic freedom on SWB through increasing inequality or when adjusting for religiosity and age of the respondents.

2.8.2.5. Environmental Factors

The level of urbanisation of different geographical areas, which defines the current residential soundings and types of habitation, may explain (although to a lesser extent) variations in SWB. Some studies find that the conditions in rural areas benefit SWB in countries such as those in Eastern Europe, Australia and Sweden (Gerdtham & Johannesson, 2001, Dockery, 2003, Hayo, 2007), because large cities usually relate to several characteristics that reduce SWB, such as pollution (Welsch, 2002, 2006) and noise (Van Praag & Baarsma, 2005). Glaeser et al. (2014) explain that residents of large cities still choose large cities as a place to live despite reporting low levels of SWB, because people benefit from more and better-paid job offers. In addition, people's SWB can be reduced when abandoned areas surround their houses (Krekel et al., 2016), if they live in unsafe and deprived areas (Shields & Price, 2005) with environmental problems (Ferrer-i-Carbonell & Gowdy, 2007) or when they are exposed to extreme weather conditions (Rehdanz & Maddison, 2005).

2.8.2.6. Culture

Cultural factors shape the way people understand what SWB means to them and what makes them happy (Suh, 2002). How much SWB people derive from what they possess also depends on cultural determinants. Therefore, even among countries with the same levels of development, or among people who possess similar things, cultural conditions may create differences in SWB (Layard, 2006).

Human tastes and preferences are not given, but rather are shaped by the cultural environment in which people live (Layard, 2006). The type of society in which people live—

collectivist or individualist—plays an important role in SWB. In collectivist societies such as China, people's perception of their lives is determined not only by the feelings of the individual but also by social standards for a happy life. People in such societies often value the quality and harmony of human relations, from which they derive emotional support (Suh, 2002). In contrast, in individualistic societies, such as North American and Western and Northern European countries, SWB is affected more by the emotions of people and linked to self-esteem, rather than personal networks or interactions with others (Kim & Tov, 2011).

In inter-country comparisons, the developed individualistic societies, record the highest average levels of SWB. This is partly because people enjoy freedom as they live in an environment without social constraints on behaviour. However, these developed countries simultaneously experience high rates of suicide and divorce (Diener et al., 2003), because individuals may blame themselves for failing to be happy in a society that offers such opportunities. In addition, in such societies, people rely on themselves and are unlikely to have the required emotional support from family and friends when they feel bad about their lives (Diener et al., 2003). Therefore, marginal individuals, including people with mental illness, may have more difficult lives in individualistic societies than in collectivist ones, while people who prefer freedom and access to resources can better adapt to an individualistic lifestyle (Diener et al., 2003).

Furthermore, the multicultural nature of most contemporary societies may play a role in determining SWB levels. The relationship between national identity and ethnic groups depends on their integration, or the feeling of having one's own culture while also belonging to the broader societal culture (Phinney et al., 2001). SWB in such a society is determined by the extent to which a vital ethnic community is formed, where members of different ethnic groups pursue obtaining multicultural identities (Chang et al., 2011).

2.8.3. Other Influences on SWB

Some other important features of people that relate to SWB, challenge the findings on the impact of particular factors on SWB (OECD, 2011). Such issues are particularly important if policy making takes SWB into account, as certain critics maintain that some interventions may not have long-lasting effects on SWB (Loewenstein & Ubel, 2008).

2.8.3.1. Adaptation

Psychologists argue that levels of SWB are determined biologically (Brickman & Campbell, 1971) or adaptively (Rayo & Becker, 2007). There is a set-point for SWB levels, toward which individual SWB tends to return over time, after having been altered by positive or negative experiences (Headey, 2008). Thus, any increase or decrease of SWB will not have a long-lasting effect, due to adaptation over time. In the SWB literature, this is called hedonic relativism, hedonic adaptation or the hedonic treadmill (Powdthavee & Stutzer, 2014).

For some findings in SWB research, scholars use adaptation to explain their results. For example, adaptation offers a partial explanation to the Easterlin paradox (discussed in detail in section 2.7.2.1), which suggests that as income increases, adaptation occurs, preventing a constant rise in SWB (Layard, 2006). Additionally, although an increase in personal income results in higher SWB, people quickly adapt to the new situation and revert to original levels of SWB (Diener et al., 1985). Specifically, Di Tella et al. (2010) find the effect of higher income on SWB fades after four years.

Other scholars do not agree that people's SWB cannot be changed. Inglehart et al. (2008) argues that the economic development over the last thirty years has improved lives, and thus SWB. Diener et al. (2009) also show that SWB can be altered over time, to a certain degree, by

events such as marriage, divorce and childbirth, even though adaptation may happen later (Headey, 2010).[9]

However, adaptation is not a universal truth; adaption to some events is not complete. For example, some people (particularly males) do not seem to recover fully from unemployment (Clark & Georgellis, 2013); therefore, it has long-lasting decreasing influence on SWB, such that even finding a job does not enable the person to reach the initial level of SWB prior to becoming unemployed (Dolan et al., 2008). People also do not adapt to pollution, disabilities, job insecurity or poverty (Clark, 2016). Furthermore, the adaptation to loss of income is also much less flexible (Easterlin, 2009). People get used to a certain level of income, and their aspiration is related to that income level, the so-called 'endowment effect' (Kahneman et al., 1991). If their income falls, those people feel disadvantaged and their SWB falls (Easterlin, 2009). All these findings set some limits to Brickman and Campbell's (1971) claim of the existence of a set-point.

2.8.3.2. Personality

Related to the previous point is the claim by some psychologists that personality is the strongest and most reliable factor responsible for differences in SWB among people (Lyubomirsky et al., 2005b, Weiss et al., 2008). Personality determines how people perceive events that occur during their lifetime in a positive or a negative way. Individual differences in both personality and SWB appear early in life and are stable over time (Diener et al., 2003). A study by Lykken and Tellegen (1996) shows that identical twins who had been separated immediately after birth and led different lives reported the same levels of SWB.

[9]Adaptation to marriage occurs three years after marriage and then SWB goes back to pre-marriage levels (Lucas & Clark, 2006).

SWB has been associated with more than a hundred of specific personality traits (DeNeve & Cooper, 1998) grouped in what is called the 'Big Five Dimensions of Personality': extraversion, agreeableness, conscientiousness, neuroticism and openness to experiences (Diener et al., 2003). Extraversion includes personality traits that focus on quantity and intensity of relationships, the tendency for social contacts and activities, positive feeling and excitement. Extroverts are believed to be happier than introverts because of their relatively stronger social activities and interpersonal interactions. Those people also have an idiosyncratic sensitivity to experiencing more intense feelings of pleasure (Van Hoorn, 2007). Agreeableness relates to the quality of a person's interpersonal relationships and specific behaviours during interpersonal interactions, such as the offer of assistance, participation in groups, empathy and trust in others. Conscientiousness describes the tendency to show discipline and commitment to targets. Conscientious people are more likely to feel satisfied with their lives because they undertake responsibility and have control over themselves and their environment. Neuroticism refers to the individual tendency to experience more negative emotional states than other people. Finally, openness to experiences is associated with culture, creativity, innovation, and ingenuity (Diener et al., 2003).

Although Layard (2005a) agrees that half of the SWB levels of an individual depend on personality, in the short term, personality is generally a weaker predictor than other factors (DeNeve & Cooper, 1998). The enormous role that personality plays in determining SWB does not mean that there is not much left to be done in order to increase SWB, and conditions in people's surroundings may create permanent differences in SWB (Diener & Fujita, 1995, De Neve et al., 2012).

2.8.3.3. Social Comparison

People tend to make comparisons of what they experience or how they feel about their life based on some standards, such as past situations, or some ideal levels of satisfaction of their needs (Michalos, 1985). In a similar way, people's social preferences are also developed while taking into consideration others' consumption (Hopkins, 2008). Thus, envy can be created in people who are in worse positions in the pursuit of better life and social status (Clark, 2018). Therefore, due to social comparison, levels of SWB depend on relative position in the society.

One illustration of this point is comparisons based on income. Layard (2006) has investigated the effect of relative income, and found that the income of others affects an individual's SWB. This implies that not only absolute but also relative income influences SWB (Easterlin, 1995, Clark et al., 2008b, Senik, 2009). As a result, an increase in income may not necessarily result in an increase in SWB if a persons' reference group gains additional income too (Clark et al., 2008b).

2.8.3.4. Expectations and Aspirations

Wilson (1967) argues that people's own expectations also determine SWB. In accordance with the degree of their expectations, the same situation may result in different SWB outcomes for different people. This corroborates Graham and Pettinato's (2002) 'happy peasant and frustrated achiever' paradox. The paradox concerns the finding of relatively high levels of SWB among the poor people, while the rich, despite their higher income, express deep disappointment and dissatisfaction (Graham & Pettinato, 2002). The explanation lies in Kahneman's (2008) idea of the aspiration treadmill, suggesting that when people achieve a certain level of success or a particular goal, they readjust their expectations upward in line with the rise in success. People with high income have greater expectations and assess their life circumstances as a whole, not just their happiness at a given point of time (Graham & Nikolova, 2015). Conversely,

poor people adapt to their low-income situation, adjust their aspirations downward and experience happiness, regardless of what they possess.

An illustration of this point is the case of increased income expected to lead to increased SWB. However, once people achieve a certain level of income, their material expectations associated with the new higher levels of income rise as well, balancing the effect of increased income on SWB and confirming indications that people adapt to increased income (Di Tella et al., 2010). Therefore, high levels of expectations and aspirations are negatively associated with a particular income level (MacDonald & Douthitt, 1992, Stutzer, 2004). SWB can be increased only if income levels move toward expectations (Leite Mota, 2007). Conversely, if expectations grow faster than income, SWB will decrease (Leite Mota, 2007).

2.8.3.5. Mispredictions

People tend to make mispredictions when it comes to SWB. People also make wrong predictions even regarding how long the effect on SWB of a particular event will last, the so-called ‘durability bias’ or ‘affective forecasting’ (Wilson & Gilbert, 2003). For example, when requested by an individual to assess SWB expected in the future, people often overestimate their future levels, generally believing that they were less happy in the past and will be happier in future. They tend to underestimate their previous level of SWB, because the answer is based on the current level of aspirations and not on the level that they actually experienced in the past. As people are prone to making regular mistakes in the long-term, their decisions may result in lower SWB than expected.

In this respect, SWB scholars have documented that people tend to overestimate the positive effect of increased income or consumption on their SWB, while perhaps erroneously underestimating the favourable impact of nonmaterial aspects of life, such as relationships, hobbies and personal interests (Frey, 2008). In the case of income, they base their assessment

on current circumstances and future expectations about better standards of living (Easterlin, 2005). A person is likely to ignore the fact that alongside rising income, expectations will not remain stable. Similarly, people expect that future events such as marriage, divorce, widowhood, childbirth or unemployment will influence SWB, often to a larger extent than they actually do (Odermatt & Stutzer, 2018).

2.9. Summary

Traditionally, economists tended to observe people's economic decisions, assuming they thereby reveal their preferences (Di Tella & MacCulloch, 2006). However, the behavioural scientists Kahneman and Tversky (2013) indicate a range of cases in which individuals did not behave in the way that would bring them maximum gains, challenging the mainstream economics assumption of rational human behaviour. This knowledge, accompanied by increased emphasis on the drawbacks of the conventional monetary indices of a country's progress, constitutes a major reorientation within the economics discipline today, allowing the study of SWB to emerge as an important and internationally recognised sub-discipline known as the economics of happiness, which commenced about four decades ago.

Currently, behavioural, social, and economic scientists operate jointly to identify the determinants of SWB. Various disciplines borrow insights from each other to enrich and better understand this multidimensional concept. For example, physiologists and neuroscientists have a long tradition of addressing important issues concerning SWB that relate to people's brain, personality and habituation. These insights provide a valuable foundation to further develop the SWB research from an economic perspective. SWB as a field of research continues to expand as individual happiness becomes more important to people, due to ongoing shifts toward individualism (Uchida & Ogihara, 2012). Yet, there is still much to be learned from further

research on unique cases, in order to broaden current knowledge on the topic and enhance understanding of SWB around the world (Diener & Ryan, 2009).

This chapter presents an overview of the field of SWB along several lines, including the emergence of the sub-discipline 'economics of happiness' and its relevance; and the different components of SWB, its measurement and its determinants. The overview of the determinants of SWB in other countries serves as a point of departure for this research. Thus, this chapter lays the foundation for the empirical work that follows in Chapters 4, 5, and 6. The following chapter will focus on the Macedonian context, in which the analysis that follows in the remaining chapters is organised.

CHAPTER 3

A SOCIO-ECONOMIC OVERVIEW OF MACEDONIA

3.1. Introduction

To grasp the relevance of SWB research in Macedonia, this chapter describes the country context by offering an overview of the economic, political, institutional and social conditions of Macedonia. While some of the current conditions in the country are inherited from past economic and political structures, others are consequences of the reforms that happened during the transition process from a centrally planned to a market-based economy from the 1990s, after the country gained independence.

Discussing the country context is useful for several reasons. First, understanding the environment in which Macedonians live is helpful, as it may shape their perceptions relating to their SWB. Second, past personal experiences during the transition process may relate to people's lives in Macedonia in more recent times and uniquely shape their expectations for the future, which may then affect SWB (Veenhoven, 2009, Gehring, 2013). Third, it is also essential to understand such past events. As Ortiz-Ospina and Roser (2018) claim, the history and culture people share within the same society make a meaningful contribution to perceptions they hold about their lives. In line with this, research suggests that when people evaluate their overall SWB, they bear in mind not only their current state but also past and future situations (Durayappah, 2011). There is an assumption that the consequences of transition in Macedonia affect important psychological, economic and sociopolitical aspects of human lives, even after the transition has largely ended. Therefore, while empirical research in Chapters 4, 5, and 6 refers to the period 2007–2008 and 2011–2012, this chapter makes reference to Macedonia's

background while it was part of the Yugoslav Federation and during the first period after the disintegration. As the transition process is known to have left long-lasting effects on people, the chapter also attempts to place the consequences of transition from the perspective of more recent experiences that affect their lives.

The socialist system, although imperfect, provided a sense of predictability and security to people with respect to job security, health insurance, childcare, and support for old people (Easterlin, 2009). The transition process introduced changes in the labour market, companies were restructured or closed down, people lost their jobs and were unable to enter new employment, as the labour demand was restricted and their skills were not sufficient, affecting people's employability (Dabalen & Paul, 2011, Nikolova, 2016). These all created additional burdens for citizens and made them vulnerable (Bartolini et al., 2017).

Generally, the communist regime made a substantial impact on the mentality of people (Trajkovski, 1999). The fall of the system left a vacuum in people's lives because it also meant the fall of a system of beliefs that had previously offered a sense of meaning and purpose to people (Inglehart et al., 2013). The new trends that emerged were a source of uncertainty, disillusioning people who were unaware of the nature of the capitalist economy and did not understand what the new system would bring and how to adapt to it (EBRD, 2017). Thus, developments during the transition were strongly linked to changes in people's beliefs and motivations that shaped their SWB at that time.

Although not specific to Macedonia, the implications of the intense hardship on people's lives are not only represented by the decline in the standard economic and social indicators, but also by a drop in SWB (Easterlin, 2009). The initial stages of the transition process were accompanied by a dramatic decline in satisfaction with work, health and family. People expressed their worries about the deteriorating living conditions (Easterlin, 2009). Past negative experiences account for current negative mental states (Beck, 1967), as SWB is a result of

different events that people experience and their ability to cope with them (Ouweneel, 2002). Thus, the consequences of the transition are important for understanding people's lives in more recent times.

The transition process has had a lasting negative psychological effect, such that even after the transition, most of the economies could not reach pre-transition levels of SWB (Gruen & Klasen, 2005). For example, by 2005, SWB in Eastern Europe had only managed to return to levels present in the 1990s (Gruen & Klasen, 2003). Recovery in SWB levels became evident in transition countries with significant progress in economic reforms and less inequality (Sanfey & Teksoz, 2007). In some countries, the gradual progress of the transitional reforms was accelerated, preceding their EU accession (Nikolova, 2014). Yet, the SWB levels in economies from Central Europe (such as Latvia, Poland, Hungary, Estonia, the Slovak Republic and Slovenia) that became EU members were generally behind the average level of the EU (Gruen & Klasen, 2000). Macedonia, however, differs from the rest of these countries, as it still has not managed to join the EU, partly due to the fact that the transition was severe, the economy sluggish, the labour market deteriorated, and the outcomes of political, economic and institutional reforms did not meet EU requirements. Importantly, these experiences provide a vantage point from which to study what makes for a happy life in Macedonia.

The remainder of this background chapter is organised as follows, beginning with some factual information about Macedonia. Then, the chapter discusses the transition and its implications for the country, describing the politics, economy, and society in more recent times. The labour market is discussed in depth, followed by a description of the system of social help and assistance, and concluding remarks.

3.2. Demographics of Macedonia

Macedonia is a small, landlocked country located in South Eastern Europe, occupying the centre of the Balkan Peninsula (Micevska et al., 2002). The geographical region is bordered to the south by Greece, to the north by Serbia and Kosovo, to the west by Albania and to the east by Bulgaria.

Figure 3.1 Map of Macedonia

Source: KFW (2019)

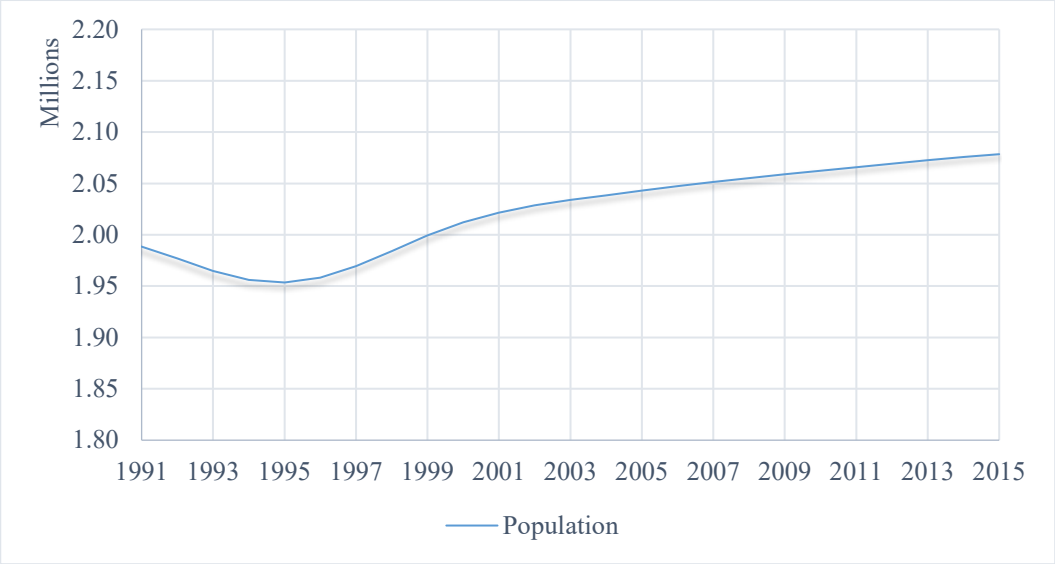
The current territory occupies an area of 25,713 sq. km and consists of high mountains and sizeable flat valleys of agricultural land (Kolčakovski & Milevski, 2012). The capital is Skopje, and Macedonian is the official national language. The cultural diversity of the population is expressed through the different religious affiliations: Orthodox Christianity is the most common religion (67%), followed by Islam (30%) and other religions (3%) (Rubeli, 2000).

Macedonia is a multi-ethnic country. The population of approximately 2.1 million (based on estimation, as the last population census was in 2002) is diverse; nearly two-thirds are Macedonians, about one-fourth Albanians and the rest include Turks, Serbs, Romas and Vlahs (Soldi et al., 2014).[10] Figure 3.2 shows the estimated Macedonian population in millions for the

[10]A new census was started in 2011, which was not completed because of a delay caused by a dispute between ethnic groups and inconsistencies in the approach to accounting for people living abroad (Soldi et al., 2014).

period 1990 to 2015. The first period of the transition was characterised by a steady decline in population, which reached its lowest level of 1.95 million in 1995. Since then, the population has had an upward trend, with an estimated population of about 2.08 million in 2015.

Figure 3.2 Population in Macedonia, Total (Million)



Source: World Bank (2018)

The demographic features and the socio-economic structure of the Macedonian population are changing as a result of high unemployment and emigration. The high portion of unemployed workers are discouraged from making longer-term plans in terms of establishing a family, as they face an uncertain future and financial instability (Koteski et al., 2014). Also, unemployment coupled with the harsh economic conditions and major social issues, such as widespread poverty that Macedonia has faced since the declaration of independence, have triggered migration (Bornarova & Janeska, 2012).[11] In addition, the visa liberalisation, granted in December 2009, allowed Macedonians to freely travel within the Schengen zone if they

[11] Migration from transition countries was found to accelerate with people's disappointment in the economic and political system (Nikolova & Graham, 2015) and high unemployment (Blanchflower & Shadforth, 2009). In addition, frustrated and unhappy individuals are potential immigrants as they tend to look for a better place to live (Graham & Markowitz, 2011) or even to improve SWB, not only for themselves but also for theirfamilies (Drinkwater & Blackaby, 2004).

possessed a biometric passport (European Commission, 2012). This facilitated trips to Europe and may have further intensified emigration.

As a result, Macedonia has lost nearly a quarter of the total number of its citizens (Bertelsmann Stiftung, 2018), although absence of accurate data makes the exact number of emigrants difficult to calculate. The emigrants do not report when they leave or return to Macedonia. Therefore, the estimates are based on the available data of statistics sources from the receiving countries, mainly Australia, the US, Switzerland, Germany and Italy; however, they do not provide information for illegal emigrants (Bornarova & Janeska, 2012). In 2011, about 26% of the country's total population was living abroad (Bornarova & Janeska, 2012).

In the past, uneducated people from the rural areas usually emigrated abroad (Trajkovski, 1999), but in the last twenty years, the emigration of young people has been constantly increasing, intensifying the ageing of the population (Soldi et al., 2014). The share of young and educated people who emigrated permanently in 2011 exceeded 29% (Bornarova & Janeska, 2012). Although the statistics are only an estimation, migration is still a matter of concern. Macedonia is a labour-exporting country, witness to the loss of a significant part of the labour force impacting the economic and social development of the country. Despite this evidence, the government has not set an official migration policy (Bornarova & Janeska, 2012).

3.3. The Communist Era

In the aftermath of World War II, Macedonia was constituted as one of the six republics of the Socialist Federal Republic of Yugoslavia (Trajkovski, 1999). Under the Yugoslav Federation, communism ruled Macedonian society. The idea behind the communist system was that the government managed the economy, based on a specific model of social ownership of the means of production (Angjelkovska, 2014). Basically, the enterprises were 'everybody's

and nobody's', which meant they were owned by the society as a whole and controlled by the regime of central planning (Micevska et al., 2002).

During the era of communism, a definite legal framework and clear directions for how to manage the economy were absent; simultaneously, high levels of bureaucracy existed (Ericson, 1991). Some companies were in a position to accumulate a significant amount of arrears in taxes and social contributions, surviving despite not being viable. Moreover, weak budget constraints for social enterprises provided easy access to bank loans for the politically well-connected companies. The government was in a position to decide to forgive companies' debts, a practise that had a negative impact on the financial sector and price stability in the country (Angjelkovska, 2014).

The idea of collectivism in the form of massive enterprises gave employees a relatively high degree of freedom and independence that encouraged conformity. The work collectives protected the rights of the employees and aimed to maximise employees' income. Moreover, the enterprises took care of employees and their families such as providing them free/cheap summer vacations and Christimas gifts for their children. Such a model created a sense of belonging to the company, creating people's own identity as part of the company. Hence, people believed that the state as a body was responsible for them (Marković, 2011). Thus, there was an absence of economic motivation among employees and limited employee creativity and ambitions to undertake personal actions and risk (Bertelsmann Stiftung, 2018). This was because people were generally happy with their situations, and competition tended not to be financially rewarded, since prices were fixed and ownership rights were not determined clearly.

The government expected that giving people power in a system of 'workers' self-management' would inspire employees to endeavour to make economic progress in the enterprises belonging to the society (Marković, 2011). The enterprises were managed by the employees within workers' councils, at that time the basic form of the self-management system.

The workers' councils operated under the control and leadership of directors following instructions from the government (Lydall, 1984).

The majority of company-level decisions were politicised (Micevska et al., 2002). Since the majority of the workers were peasants and had insufficient education and skills, favourable conditions were created for some workers, the directors and politically powerful leaders. Political leaders influenced the decisions made within the enterprises, regulating the interactions among economic actors while not being held accountable for their bad decisions or practises (Ericson, 1991). Distortions and rivalry prevailed and adversely affected the functioning of the country (Micevska et al., 2002).

The socialist self-management system appeared to be unsustainable; the centrally planned approach was insufficient (Micevska et al., 2002) and communism lost its credibility (Inglehart et al., 2013). The collapse of communism in many transition countries was an expression of dissatisfaction with political and economic conditions as people were striving for political freedom and civil rights (Bartolini et al., 2017). After the transition, political and personal freedom in transition countries became enhanced (Nikolova, 2014).

3.4. Independence from Yugoslavia

After the downfall of communism in Yugoslavia, Macedonia settled the issues for separation from the Federation in 1991. Elections for the establishment of its own parliament were also organised (Mastilica, 1990, Kovacevic & Dajic, 1994). Following the results of a public referendum in September 1991, Macedonia proclaimed independence from Yugoslavia (Bacanovic & Jovanova, 2011). The form of government changed from socialist state to parliamentary democracy (Trajkovski, 1999). The new constitution was put into force, declaring Macedonia a sovereign, independent, civil and democratic republic. Although the constitution recognised the rights of all ethnic minorities in the country, ethnic Albanians expressed their

dissatisfaction with regard to their status being assured by the constitution (UECPI, 2014). More specifically, ethnic Albanian leaders opposed to the wording in the constitution, which according to them implied that non-ethinc Macedonians citizens have lower constitutional status.

The Federal Republic of Yugoslavia acknowledged the disintegration of Macedonia in 1992; however, achieving recognition by the international community appeared to be a difficulty (Glenny, 1996). The neighbouring countries questioned different aspects of Macedonia and did not accept it as such. Greece, Bulgaria and, to lesser extent, Serbia saw the Macedonian population as a mixture of Bulgarians and Serbs (Pettifer, 1992, Danforth, 1997), not recognising the identity and the existence of Macedonians[12]. For example, although Bulgaria recognised the country, it disputed the existence of a Macedonian nationality and language (Rubeli, 2000). Then, the problem with Serbia related to the existence of separate independent Orthodox churches in both countries. In addition, Greece refused to recognise the country's constitutional name, arguing that the country cannot call itself by the same name as one of the Greek northern regions (Donev, 2013), assuming that by doing so meant to claim that part of Greece (Zahariadis, 1996). These political issues between Macedonia and Greece postponed the official recognition of Macedonia's independence by the UN and Europe (Widner, 2005).

In order to ease tensions, Macedonia amended its constitution on a few occasions. In 1992, modifications were made to meet the requirements of Europe that Macedonia demonstrates no territorial claim toward Greece and Bulgaria aimed at establishing 'Great Macedonia' (Widner, 2005). As a result, Macedonia signed a treaty on the inviolability of borders. Furthermore, Greece opposed the new Macedonian flag, adopted in August 1992, claiming that the 'Vergina

[12]After the Balkan Wars, the Macedonian national identity appeared to be tied to the Serbian Kingdom (Roudometof, 2002). However, in 1944, when Macedonia was constituted as part of Yugoslavia , the president of Yugoslvaia, Tito recognised the separate Macedonian nation.

sun' was the symbol of Philip of Macedon and Alexander the Great (Rubeli, 2000). Macedonia dropped the Vergina symbol from its flag in 1995 (Glenny, 1996) and revised articles in its constitution. As a result, Greece withdrew from the rejection of Macedonia's integration in international organisations where Greece is also a member, but under the name Former Yugoslav Republic of Macedonia (FYROM) (Bertelsmann Stiftung, 2018). Diplomatic recognition under the provisional name, FYROM, was later obtained from all other EU countries and the US (Zahariadis, 1996).

3.5. The Transition to a 'Market Economy'

The disintegration from Yugoslavia in 1991 was accompanied by an optimistic view toward developing a market-based economy, abandoning central planning and creating a contemporary democratic society. Capitalism replaced the previous communist/socialist system, requiring creation of new institutions or improvement of the former ones to underpin the new capitalist society. A transformative process of the entire Macedonian society commenced, triggering fundamental large-scale reforms in the economic, political and legal systems (Bacanovic & Jovanova, 2011). The promising but insecure transition in Macedonia lasted longer than planned, with some reforms postponed to a later stage. The inherited structural problems from Yugoslavia made the adjustment of Macedonia to the new market economy painful and prolonged (Nikoloski, 2012). Macedonia had entered into transition without a clear understanding of how to deal with the consequences of the reforms (Trajkovski, 1999).

3.5.1. The Privatisation of the Socially Owned Enterprises

After gaining independence, Macedonia found itself in an uncertain and unfavourable economic situation, for two reasons. First, while being one of the six countries of Yugoslavia,

Macedonia was the weakest in the Federation, and the rest of the member countries had contributed to strengthening the Macedonian economy (Micevska et al., 2002). Thus, with the secession from Yugoslavia came the withdrawal of access to economic and financial assets, capital and resources (Rubeli, 2000, Shukarov, 2011).

Second, after the disintegration, economic conditions were severely affected by losing a big share of the market (about 60%) (Micevska et al., 2002), since most of Macedonia's trade was with other parts of Yugoslavia. The Macedonian economy had a large manufacturing sector that previously had met the needs of other countries or regions from the former Yugoslavia. The Macedonian economy largely contained elements of the centrally planned economy, results of the long-lasting process of developing the specific economic and socialist system of Yugoslavia. In their attempt to attach different parts of the federation to each other, the former Yugoslavian authorities dispersed the process of vertically integrated production among various countries. Each region specialised in particular aspects of production (Micevska et al., 2002). Macedonia had focused on industrial production, mainly energy-intensive manufacturing of intermediate products and labour-intensive production, such as textile fabrics and food processing (Micevska et al., 2002). Despite its long tradition in the Macedonian industry, the share of textile fabrics and finished textile products decreased as textile companies were severely hit by the transition process. The investements in the textile sector were not sufficient for Macedonia to create new comparative advantages in the industrial production of textile products (Micevska et al., 2002).

The economic reforms aimed at bringing the country to the desired endpoint of prosperity and integration in the world market-based economy (Treisman, 2014). That required restructuring the economy, and a crucial step was the transformation of the existing enterprises. They were not profitable, and the restricted allocation of resources left them insufficiently competitive in the market (Peng & Heath, 1996). The new law on the transformation of enterprises with social capital (which accounted for 90% of the total ownership) was officially

set in 1993, providing a framework for privatisation of those enterprises that were not previously covered in the constitution (Angjelkovska, 2014).[13] The law prescribed case-by-case privatisation rather than mass privatisation, through the method of paid privatisation.

Privatisation of the enterprises was performed through management-employees buyout of the 'internal shares' or auction of the residual parts (Micevska et al., 2002). The management depreciated the value of the company so they could buy the shares at a discounted price (Angjelkovska, 2014). Managers also controlled and restricted employees selling their shares to outsiders, so they could buy them for themselves under favourable conditions in return for employing or taking care of other family members. Hence, managers gained the most from privatisation of the companies (Arsov, 2018). The privatisation of the residual part would be carried out by sale to potential external strategic partners through an auction on the international tender. Not only the offered price, but also the business plans, strategy for employment and investment proposed by the potential clients were important (Micevska et al., 2002). However, there were institutional barriers to inflow of capital from outside the company (Angjelkovska, 2014).

The process of privatisation was facilitated by two entities that worked under state control, the Privatisation Agency, which took care of the remaining shares from privatised companies; and the Bank Rehabilitation Agency, which dealt with nonperforming loans from the biggest state banks. The privatisation occurred under the guidance of international financial and political organisations that conveyed large promises, in the end delivering actual results that were rather lacking. In 2005, the Privatisation Agency was shut down as the privatisation was largely completed, and in 2006, the massive sell-off of shares occurred.

[13] Privatisation of the state-owned enterprises originally commenced in 1989, with the law on the social capital of the former Yugoslavia, when 600 enterprises were converted into limited liability or joint-stock companies (Angjelkovska, 2014).

Completing the steps of privatisation seemed a difficult task, a disorganised and long process, due to difficulties in coordinating various interests all focused on rare resources. Moreover, government bodies were slow and inefficient so that relevant documentation was often lost (Micevska et al., 2002). In addition, the banks were unable to handle bankruptcy, and corruption and fraud characterised a financial system that possessed limited information on enterprises' financial positions (Ružin, 1999). Moreover, the judicial system was not trained to handle difficult commercial cases (Micevska et al., 2002).

Privatisation of the large and medium-size enterprises was most problematic. After the loss of the Yugoslavian market, large companies were loss-makers and, because of the strictly regulated process in the labour law for dismissal of employees**,** they suffered unpredictable future transformation. Most of these companies were liquidated, even though under the monitoring of the World Bank they were meant to be reconstructed (Shukarov, 2012).

Due to lack of domestic cash, privatisation was opened to foreign investments (Shukarov, 2011). Having acknowledged the importance of foreign direct investments in bringing capital, technology and knowledge, in 1999, the government adopted new legislation that treated foreign investments equally to domestic ones (Micevska et al., 2002), offering simplification of procedures and no tax on profit during the first three years of existence (Micevska et al., 2002). As a result, privatisation with foreign capital accounted for DM 185 million (Angjelkovska, 2014). Moreover, with the support and help of the European Bank for Reconstruction and Development (EBRD), foreign investors were found for the privatisation of a number of banks, which commenced in 1994 (Angjelkovska, 2014). However, the lack of investors resulted in unsuccessful attempts to privatise the last state companies (EBRD, 2017). As investments in new technologies were insufficient and little motivation existed to search for new methods of production, Macedonia did not attract foreign investors.

3.5.2. Trade and Price Liberalisation

When Macedonia became independent, it was self-sufficient in terms of food, yet confronted weakness in terms of oil, gas and modernised machinery (Micevska et al., 2002), which increased the need for imported products. Exports to other markets were limited due to narrow product variety, low quality, and noncompetitive prices. The NATO bombardment in 1999, due to the treatment of Kosovo Albanians, had destroyed infrastructure and facilities in Serbia, forcing Macedonia to seek alternative transport routes for transit to Europe, adding to the cost of the products and making them less competitive. The limited supply of raw materials from Serbian companies also affected Macedonian enterprises (Rubeli, 2000). The situation was aggravated as exports to the former Soviet Bloc had also started to experience economic crises. Moreover, the UN had started to control the flow of transported good through Macedonia, as a result of their sanctions in 1992 against Serbia and Montenegro (Weller, 1992), Macedonia's key trade partners.

In addition, the 1994 Greek economic embargo blocked the connection of Macedonia with the Thessaloniki port for eighteen months, affecting trade lines to various markets that previously were used for trade transit by the Macedonian sector of heavy industrial products. The railway network between the two countries also ceased, resulting in lack of access to markets for heavy industry (Sekulovska-Gaber, 1996, Soros, 1997). The trade blockade ended after intervention by the US government (Rubeli, 2000). As a result, in 1995, Macedonia ratified a UN-backed interim accord for mutual recognition, exchange of liaison officers and open commercial routes to normalise and improve the relationship between Greece and Macedonia (Glenny, 1996).

Macedonia was also unable to trade with the region, due to wars in the region. The Kosovo war in 1999 influenced the Macedonian exports to foreign countries, delivered through alternative transit countries, which added to the cost and made Macedonian products less

competitive. In addition, issues with refugees from Kosovo and uncertainty in Macedonia made banks hesitant to make financial decisions (Lloyd, 1999). However, once the Kosovo crisis terminated, production expanded due to the ongoing reconstruction in Kosovo, and trade to and from Kosovo picked up. Exports to Kosovo of food, beverages and tobacco used Macedonia as a transit country (Micevska et al., 2002).

Since Macedonia confronted difficulties in trading with the region, it tried to adjust its economy to the market model by liberalisation of foreign trade and prices. Tariffs were reduced and adjusted to OECD levels, and about 90% of imports were placed under a free-trade regime (Petreski & Kostoska, 2009). Opening to foreign markets did not stimulate the productivity and competitiveness of the domestic companies (Shukarov, 2011). Instead, it exposed the Macedonian companies to increased influence of international competition, creating conditions for the destruction of domestic production (Shukarov, 2011). As the trade liberalisation led to increased imports, the goods shortage ceased to exist; however, the trade gap widened and goods were imported without proper control (Micevska et al., 2002).

3.5.3. Integration in the World Economy and International Cooperation

In the critical years following the declaration of independence, Macedonia developed an economic-policy agenda that contained elements focusing on participation in international territorial markets and membership in economic organisations, such as entrance into the EU and NATO (European Commission, 2007a). Macedonia succeeded in achieving trade and economic relations through international agreements, such as the Central European Free Trade Agreement (CEFTA), and was admitted to UN in 1993 (Donev, 2013), the Organization for Security and Co-Operation in Europe (OSCE) (Rubeli, 2000), the World Trade Organisation (WTO) (Bertelsmann Stiftung, 2018), the Council of Europe, and NATO's partnership for peace

program in 1995. The country was also granted candidate status for the EU in 2005 (Donev, 2013), signed a Stabilisation and Association Agreement with the EU in 2001 (Demetropoulou, 2002), which entered full force in 2014 (Bertelsmann Stiftung, 2018) and supported the further liberalisation of trade and establishment of institutions for cooperation between the EU and Macedonia.

However, the actual integration in the EU has never come to pass. Although EU membership was set to be a priority of the newly independent country (Angjelkovska, 2014), meeting the EU conditions, such as improvements of democracy, social justice and security in order to become a full member of the EU seemed to be a burden for such a small economy (Shukarov, 2011). Macedonia has been assessed to have geopolitical advantages but not the important economic benefits (Vachudova, 2014). Another impediment is the deadlock to resolving the name dispute with Greece, especially with the approach by the right-centred government to intensifying the national identity (Đorđeska, 2011). The European Commission has proposed negotiations with the European Council since 2009, but without any success. In March 2012, a new EU accession dialogue was started (Soldi et al., 2014). Political issues between Macedonia and Greece also blocked the accession to NATO in 2008, although NATO offered the prospect of an invitation to join the alliance in 2006 (Bertelsmann Stiftung, 2018). In February 2019, the member states of NATO signed an accession protocol allowing the country to join the alliance, as the naming dispute had been finally resolved.

To a certain degree, the development of the country was helped by the EU and shaped to align with its requirements. The long-lasting EU candidate status has challenged political leaders to promote democracy, political stability, economic growth (Gerovska Mitev, 2013) and intensified social policies and programs in Macedonia (Micevska et al., 2002). The EU provided financial assistance to support the development and promotion of the economy and society, including modernisation, reconstruction or new investments to facilitate the preparation for

integration in the EU, but also to create a favourable business environment tailored to its acceptance criteria (Bartlett, 2013a). Efforts were made to bring the Macedonian legislative system closer to the EU legal basis for improving stakeholders' protection (European Commission, 2012). The law applying to the national bank was harmonised with the EU regulations (Bertelsmann Stiftung, 2018) in two instances (2002 and 2003), establishing the legal foundation for monetary policy to maintain price stability in the country (Angjelkovska, 2014). The pre-accession economic programme from 2013 supported the planned steps toward growth with emphasis on employment, in accordance with the EU requirements for the period 2013–2015 (Angjelkovska, 2014). EU and NATO integration remain Macedonia's key long-term objectives (Bertelsmann Stiftung, 2018). All political powers share the strong aspiration for membership, and implementation of the EU-related reforms continued to address the remaining critical points, notwithstanding the leading party (Donev, 2013).

3.6. The Political System

Unlike the previous one-party political system in Yugoslavia, since its independence, Macedonia has had a multiparty system that represents the ethnic structure of the country, which is the outcome reflecting the equivalent voting (Widner, 2005). Two major political parties, SDSM (the successor of the communist party) and VMRO-DPMNE (based on the Macedonian revolutionary movement from the early twentieth century) have swapped holding power on the political scene (Bertelsmann Stiftung, 2018).

The first free multiparty elections for a parliament in 1990 elected the centre-left party SDSM to the majority, which was re-elected until 2006, except in 1998. During SDSM's governance, political stability in Macedonia was disturbed several times by internal and external crises, distracting the policymakers from the ongoing reforms of the transition and moving

toward solving crisis-related issues and maintaining stability and peace in the country (Donev, 2013).

First, the national-identity concern brought to the surface the inter-ethnic tension between Macedonians and Albanians (Soros, 1995, Sekulovska-Gaber, 1996). The ethnic Albanian minority in Macedonia was seen as a threat to north-western Macedonia because of the fear of integration into Great Albania, with other parts of neighbouring countries where Albanians prevailed. Therefore, restraints directed toward the Albanian population were practised, boosting the political extremism between Albanians and Macedonians (Koppa, 2001).

The war in neighbouring Kosovo after 1999 created insecurity at the Macedonian borders, having severe implications for the political and social stability in Macedonia (Rubeli, 2000). The arrival of over 350,000 Albanian refugees in Macedonia (Donev et al., 2002) increased their share of the population and created hostility (Bartlett & Samardžija, 2000), adding pressure to multi-ethnic intolerance (Gleditsch & Salehyan, 2006) and creating a humanitarian crisis in Macedonia (Rubeli, 2000). The termination of the Kosovo crisis led to a brief period of stability in Macedonia and challenged the government officials who led the process of reforms to perform with better efficiency (European Commission, 2007a).

The deteriorated security after the Kosovo war, coupled with the increased tensions between ethnic groups, motivated the ethnic Albanians in Macedonia to demand more collective rights toward improving their status in the community, such as introduction of an official bi-ethnic system, including official usage of the Albanian language, and prevention of job- and education-related discrimination in the region populated by 20% of ethnic Albanians (Bertelsmann Stiftung, 2018). The ethnic Albanian rebel groups attacked the Macedonian police in north-western Macedonia at the beginning of 2001, further destabilising the country as the coping process was slowed due to political and military inability (Rubeli, 2000). The reforms were again delayed (Faggio & Konings, 2003).

Actions taken by the US and Europe helped stabilise the critical period, resulting in the signing of the Ohrid Framework Agreement in 2001, which applied political and constitutional reforms to advance the rights and representation of national minorities, mainly Albanians (Kim, 2005). Spoken by over 20% of the people in Macedonia, Albanian evolved into the co-official language in government institutions as part of the introduction of a system of double majorities. That system includes decision-making in the parliament requiring consent from minorities, a certain level of municipal decentralisation (i.e., redistribution of resources to local government units and tax rates and municipal fees controlled at the community level), and introduction of employment quotas for minorities for equitable representation in jobs in the public sector, including police (Bertelsmann Stiftung, 2018). No matter which political party is leading the country, it addresses the key rights deriving from the Ohrid Agreement. The EU supported the conditions of the Ohrid Agreement and regards them as meeting one of its criteria regarding human rights, protection of minorities and control of its territory (Rubeli, 2000). Nonetheless, internally, the existing problem with the Macedonian identity was further exposed (Karkamisheva, 2004).

The national elections in July 2006 were supported by international organisations to prove fairness and regularity of the contest, and there was a shift in political power. VMRO-DPMNE, the centre-right party, won the elections and formed a new government in coalition with other parties, including Albanians. During VRMO's tenure (re-elected until 2016), the political stability of the country also has been challenged on several occasions. More recently, a political crisis unfolded in 2015, when the opposition (SDSM) released recorded conversations of politicians, journalists and activists about scandalous use of political power within the Macedonian government, the politicisation of the public sector and judiciary and practises

favouring businesses connected with the ruling party (Bertelsmann Stiftung, 2018).[14] A series of protests and anti-protests followed, further triggering inter-ethnic tensions and aggravated political polarisation (Bertelsmann Stiftung, 2018). The inter-ethnic brief but violent conflict between armed ethnic Albanians from Kosovo and Macedonian security forces happened in May 2015 in the northeast of the country, which ended with twenty-two dead and thirty people arrested for terrorism (Bertelsmann Stiftung, 2018). This conflict motivated the EU in cooperation with USA to agree with the political parties and establish a 'technical' government. Moreover, to carry out a systematic or formal inquiry to discover and examine the facts of allegation revealed from the recorded material, a public prosecutor was appointed, who began the investigation in 2016. However, the President decided to stop the investigation of crime by the Prime Minister and dozens of other politicians and journalists and their associates, revealed in recorded conversations. The President's decision provoked prostests in the country, that united civil society actors and the opposition. One of these protests is the so-called colourful revolution, started in 2016 to express the revolt against the decision of the president. Although in June, 2016, the president removed his pardons, which permit the public prosecutor to conduct the investigation, the protests interrupted the functioning and work of the main democratic institutions, such as the Assembly (Bertelsmann Stiftung, 2018). The crisis destabilised the country, slowing down the economic performance and Foreign Direct Investment (FDI) (Bertelsmann Stiftung, 2018). Moreover, public and private investment remained depressed as a result of the instability (EBRD, 2018).

The crisis was overcome with help from the international community, led by the EU, and early parliamentary elections organised in December 2016, resulting in narrow victories (Bliznakovski, 2017). Then ruling party VMRO failed to make a new coalition with the

[14]In 2015, the country also faced a refugee crisis and the Macedonian institutions administered the transit of over 750,000 people, using the Balkan route (Bertelsmann Stiftung, 2018).

Albanian parties (Bliznakovski, 2017). After a lengthy process of government formation, in May 2017, the opposition (the left-oriented SDSM) formed a parliamentary majority in coalition with three Albanian parties (Bertelsmann Stiftung, 2018). The Prime Minister (from VMRO) stepped down as part of an EU-arranged deal. In June 2016, the president withdrew his decision and allowed the public prosecutor to continue with the investigation (Bertelsmann Stiftung, 2018).

Ethnic divisions and nationalism are ongoing concerns and issues of political polarisation (Bertelsmann Stiftung, 2018). Throughout 2015 and 2016, Albanian parties organised protests to express their desire for more rights for Albanians and their dissatisfaction with the delivery of justice (Bertelsmann Stiftung, 2018). Their demands were part of the electoral manifestos of the newly formed Albanian parties at the outset of the parliamentary election in December 2016. The Albanian parties represented in the parliament created a common platform that required advances in the use of the Albanian language, as well as changing the national symbols of the country (Bertelsmann Stiftung, 2018). However, there were protests in spring 2018, against the advance use of Albanian as an official language (Ceka, 2018).

Succeeding the appointment of the new Prime Minister (from SDSM), the government has been advancing changes, adjustments and reforms, following the recommendations from the EU, particularly related to solving issues with the neighbouring countries (Bliznakovski, 2017). These include signing the Friendship Treaty with Bulgaria, opening a new round of negotiations over the name dispute with Greece (which led the Prime Ministers from both countries to sign the Prespa Agreement and finally solve the name despite). The agreed-upon new name “Republic of North Macedonia” was brought to referendum in September 2018, but failed to secure the 50% turnout of voters required to make the vote valid (BBC, 2018). Yet, the name change came into force in February 2019 with the government’s constitutional amendments.

Regardless of which political party is in power, there is widespread abuse of political power, such as control and interference in the functioning of state institutions and intimidation of the judiciary (Bliznakovski, 2017) preventing them from working independently (Bertelsmann Stiftung, 2018). Corruption in all structures and levels causes problems in decision making, especially in public services. Corrupt practises place constraints on people's equal opportunities and choice regarding any type of activity (Trajkovski, 1999). Since 2008, control of corruption in Macedonia has been eroding (Bertelsmann Stiftung, 2018). Compared to the world standards, Macedonia ranks in ninetieth place among 176 countries, according to the Corruption Perceptions Index from 2016 (Transparency International, 2017). Even though corruption has been set as one of the priorities of any government in Macedonia, political inference in many spheres of governance hampers the implementation of anticorruption policies (Ninua, 2014). The control of corruption is not sufficient (Bliznakovski, 2017) and almost 50% of the population believes that the government is not willing to control corruption (EBRD, 2017).

Furthermore, the media is polarised along political lines and assessed as biased and lacking credibility (Bliznakovski, 2017). Different surveys (such as the Eurobarometer and the IRI poll) corroborate the results that more than half of the respondents think that no free expression of opinion exists in Macedonia (Bertelsmann Stiftung, 2018). Another concern in Macedonia related to the political powers is the existence of nepotism (Trajkovski, 1999). The public administration sector is politicised to a great extent (Bertelsmann Stiftung, 2018). Moreover, the functioning of educational institutions is under influence of the political parties (Bliznakovski, 2017).

3.7. The Economy

At the beginning of the transition, the pre-existing features of economic distortions contributed to the failure to build a stable economy. In the early 1990s, the economic environment was bleak, characterised by low levels of economic and capital growth. At the same time, there was a high level of inflation and unemployment accompanied by over-employment (Micevska et al., 2002). In addition, reduction in its market size and fundamental transport lines made Macedonia economically vulnerable. Although the economic conditions recovered in a few years, the overall macroeconomic situation deteriorated to an extent that raised uncertainty about the progress made in the transformation of the economy, calling into question the complete achievement of the initial aims of the transition (Micevska et al., 2002). Additionally, the existing grey market, which constituted about 30% of GDP (Trajkovski, 1999), and an uncertain social and political situation slowed down economic progress and made domestic and foreign investors reluctant to allocate capital to Macedonia (Rubeli, 2000). More detailed discussion of the trends of the economic indicators, including national income and inflation in Macedonia, appears below.

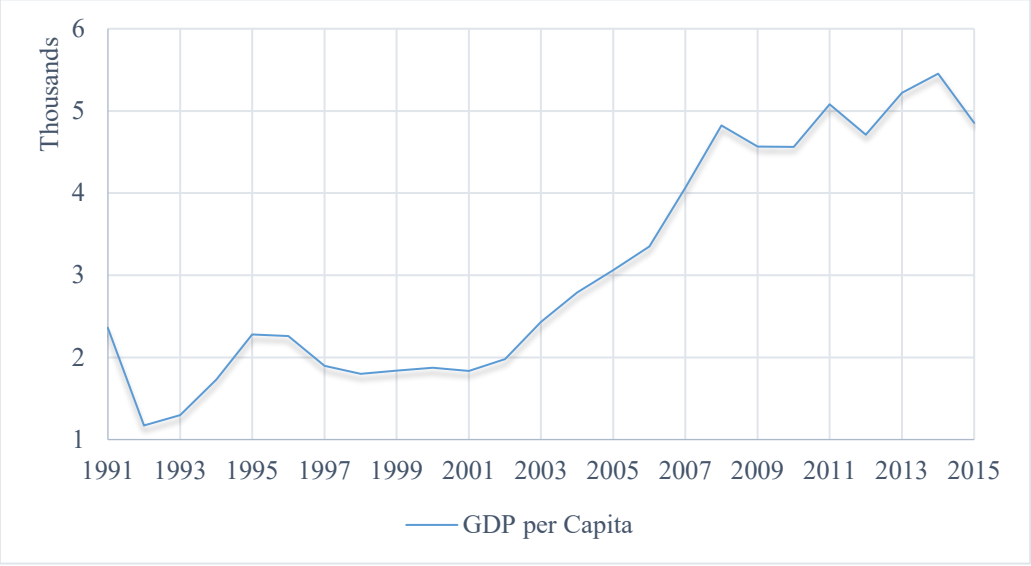
3.7.1. GDP

Figure 3.3 shows the trend of GDP per capita in Macedonia, from independence until 2015. The first years after independence saw a sharp drop in GDP per capita. This was a result of the decline in almost half of the industrial production, due to loss of the Yugoslav market (Kekic, 2001), and the delays in commencement of restructuring processes, such as the reforms in enterprises and banks (Boskoska & Panovska-Boskoska, 2014). The low GDP trend continued all through the first decade of independence, because of the wars and conflicts in the Balkan (IMF, 1998). Since 2002, GDP per capita has grown, although it has experienced some drops. For example, while a remarkable rise of GDP per capita was evident between 2002 and

2008, in the wake of the global crisis in 2008 and until 2010, GDP per capita experienced a slowdown.

The consequences of the economic crisis were passed to Macedonia through two channels, foreign trade and capital investments, given than foreign trade represents a big part of GDP in Macedonia, a small country with an open economy (Besimi, 2004). As Macedonia relies on imports from Europe, that simultaneously makes it vulnerable within the Eurozone (Shukarov, 2011). About 60% of Macedonian trade is carried out with countries from the EU (Steves et al., 2011). Macedonia is not only a consumer, but also a source of investment for Europe. Therefore, the capital investment deals affected the Macedonian economy, with implications for small and medium-size enterprises and their limited resources (Jeleva, 2012). Due to the crisis in the Eurozone, investors were more reserved in making new investments and the banks were hesitant to approve loans for new businesses because of the uncertainty the global crisis created (Boskoska & Panovska-Boskoska, 2014).

Figure 3.3 GDP per Capita in Macedonia (Current US$)



Source: World Bank (2018)

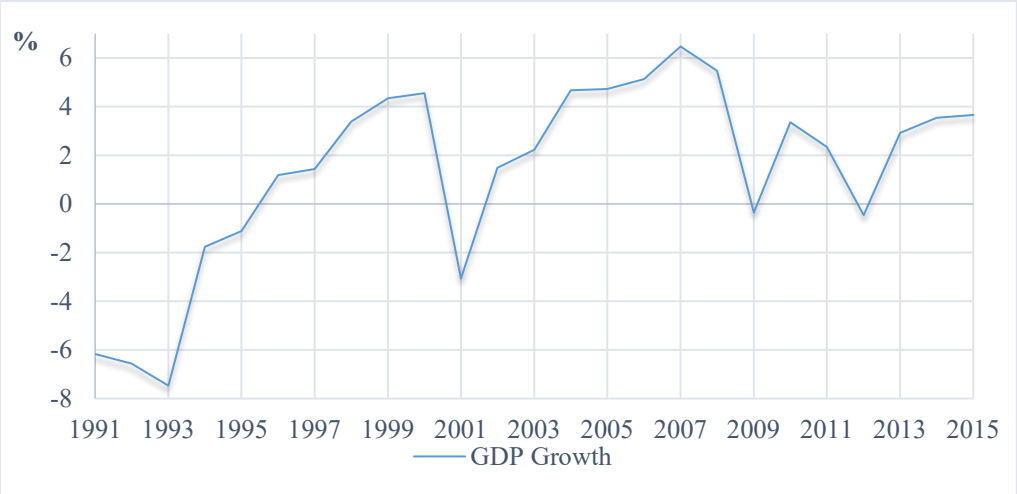
Despite this, the Macedonian economy was assessed to have survived the global crisis of 2008 reasonably well, due to its restricted exposure to unsafe assets (Steves et al., 2011),

constant private-capital inflows and resilient domestic demand (European Commission, 2010). In addition, the government set cautious monetary policy and reduced the fiscal deficit and taxation (Central Intelligence Agency, 2016), while increasing its public spending (European Commission, 2010). Last, in 2009, the EU directed funds of EUR 200 million as a crisis-package for the Western Balkans (European Commission, 2010).

Fluctuations in the rate at which actual GDP grows annually are shown in Figure 3.4. GDP growth has been dynamic through the years (1991-2015). It reached negative levels in the first half of the 1990s, while positive results were noticed by 1996. Although the economic growth slowed due to the Kosovo crisis in 1999, it later recovered when investments were accelerated, and the demand for Macedonian products was stimulated by the reconstruction of Kosovo. The GDP growth was also the result of an increase in labour productivity and improved usage of the available resources (Micevska et al., 2002). The positive GDP trend from 2000 was reversed in 2001, when a sudden deep fall was recorded, with a GDP rate of about –3% due to the war-like disturbance (Micevska et al., 2002). Since then, GDP growth has been stable, increasing constantly to finally reach its highest point of 6.5% in 2007. This is likely due to the populist policies adopted by VMRO since 2006, such as extended public spending on goods targeting specific groups in the population, e.g. retired people and farmers.[15] The GDP increase also may be due to the increased FDI in Macedonia, attracted by the stable macroeconomic conditions (Bertelsmann Stiftung, 2018). Nevertheless, GDP rate had a modest downturn and was about –0.4 and –0.5% in 2009 and 2012, respectively, largely attributed to the global crisis and the increased importation of commodities (Steves et al., 2011), given that the aftermaths of the global crisis in Macedonia were delayed, compared to Europe (Soldi et al., 2014). Since 2013, the country has shown signs of recovery and growth (Bertelsmann Stiftung, 2018).

[15]Yet, ineffective public spending resulted in increased public debt, increased social transfers and decreased FDI (Bertelsmann Stiftung, 2018).

Figure 3.4 GDP Growth in Macedonia (Annual %)



Source: World Bank (2018)

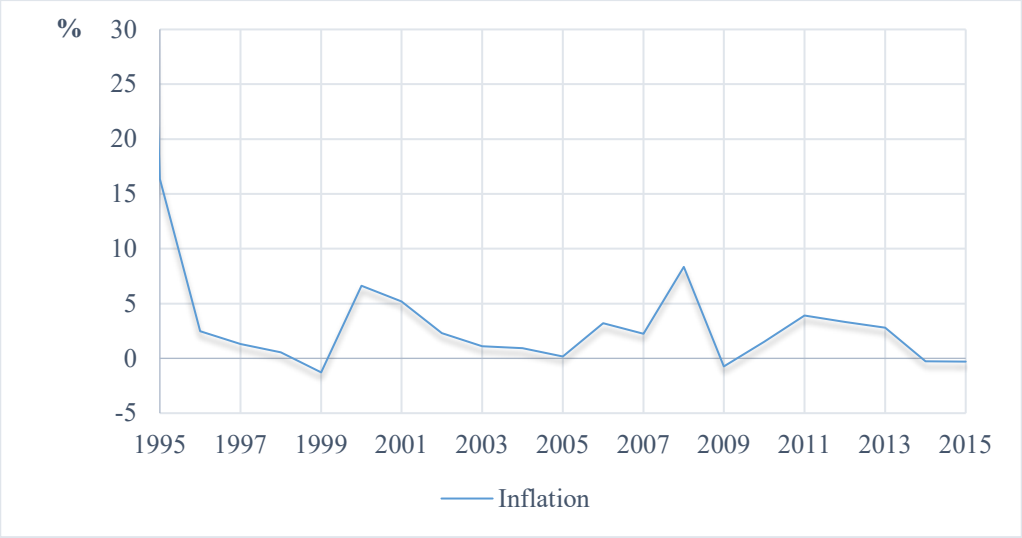
3.7.2. Inflation

Changes in inflation over the period of 10 years are presented in Figure 3.5. In the first period after independence, the transition process was accompanied by price liberalisation for food, industrial products, and services, along with insufficient control of financial aggregates (Micevska et al., 2002).[16] As a result, high rates of inflation prevailed (Angjelkovska, 2014) peaking at 1,500% in 1992 (Micevska et al., 2002). The following couple of years, inflation was in triple digits, at 125% in 1994 (World Bank, 2018). Inflation was controlled by introducing a DM anchor in 1995 (Micevska et al., 2002). Additionally, as a result of the EU programme for stabilisation and development from 1994, and a way to promote the EU integration, Macedonia restricted the inflation rate at the level of 5% and kept the national currency stable (Demetropoulou, 2002). Since 2002, the national currency (Denar) has been pegged to the euro at 61.5 (Bertelsmann Stiftung, 2018). The stability of the Denar limits high inflation and assures price stability in the country (Angjelkovska, 2014).

[16] Price controls and regulations still existed for energy, telecom, transportation, water supply and oil derivatives, as part of the newly adopted legislation for competition policy.

In 1999, deflation existed due to lower prices for food and the Kosovo crisis (Micevska et al., 2002). However, in the following years, Macedonia enjoyed price stability, with the exception of 2008, when inflation rose and reached high levels of 8.3% due to the global crisis (Mojsoska-Blazevski, 2009). Deflation continued in 2009 because of low food prices (European Commission, 2010). The inflation rate finally stabilised and has had a relatively flat trend since 2010. In 2014, however, a limited deflation was caused by the low process of food, gas and transport and economic instability in the EU, Macedonia's main trading partner (Bertelsmann Stiftung, 2018).

Figure 3.5 Inflation, Consumer Prices (Annual %)



Source: World Bank (2018)

3.7.3. The Business Environment

Since its independence, one of the preconditions for the country's progress was expansion of small and medium enterprises (SMEs). The country tried to provide a favourable environment in which to stimulate the business climate in Macedonia (Faggio & Konings, 2003). Although the government has attempted to create an attractive environment for entrepreneurship through better corporative governance and promoting the rights of shareholders (Steves et al., 2011),

SMEs have struggled to grow due to their high dependence on loans from banks at the high interest rates (European Commission, 2007a). In addition, indirect barriers to doing business in Macedonia include corruption, government intervention in private companies, unequal and unclear guidance for setting up a company, political instability, limited access to finance and existence of an informal sector, institutional and administrative weaknesses, institutional nationalism and difficult contract enforcement (Ercan Su et al., 2013, Karameti, 2014, Bertelsmann Stiftung, 2018).

Even though challenges undoubtedly restrained the economy and the business climate in the country, Macedonia ranked among the top ten countries regarding the general reforms of 2010. In addition, Macedonia held the twenty-fifth position for simplicity in running a business, in a list of 189 countries around the world in 2013 (World Bank, 2014). For example, it takes two days to register a company in Macedonia (Bertelsmann Stiftung, 2018). One example of the progress in the reduction of barriers to market entry and exit, which the European Commission positively evaluated (2011). The government also has offered a flat tax rate of 10% (Bertelsmann Stiftung, 2018) and, in 2009, established new free technological and industrial zones, further developed in 2010. This attracted foreign investment, mainly from Germany, which set up its automotive-part production in Macedonia, promoting job creation but at relatively low salaries (Bertelsmann Stiftung, 2018).

To put the Macedonian economy into a Balkan context, Table 3.1 reports data on several economic factors for the period of interest in this thesis 2007-2008 and 2011-2012 for the countries of the former Yugoslavia as well as Bulgaria and Greece.

Table 3.1. Macro-economic Indicators in the Balkan, 2007-2008 and 2011-2012

	2007-2008					
	GDP growth	**GDP per capita, PPP (Constant US$)**	**Unemployment rate**	**Inflation rate**	**FDI net inflows (% of GDP)**	**FDI, net inflows (Current US$)**
Albania	6.7	8802	14.5	3.1	7.9	9.5
Bulgaria	6.7	14952	6.2	10.3	25.1	12.1
Croatia	3.7	22422	9.2	4.4	7.5	4.8
Greece	1.5	31977	8.1	3.5	1.1	3.8
Macedonia	**5.9**	**10762**	**34.3**	**5.2**	**7.5**	**6.7**
Serbia	5.6	12560	15.8	9.4	9.6	4.2
Kosovo	4.9	7463	/	6.8	11.2	5.7
Montenegro	7.0	14091	18.2	6.5	23.4	9.6
Slovenia	5.1	30664	4.5	4.6	2.9	14.8
Bosnia and Herzegovina	5.6	9558	26.1	4.4	8.5	14.2
	2011-2012					
Albania	1.9	10288	13.4	2.7	7.8	9.8
Bulgaria	0.9	15724	11.7	3.5	3.5	19.5
Croatia	-1.3	20550	14.8	2.8	2.4	14.4
Greece	-8.2	25252	21.1	2.4	0.5	13.7
Macedonia	**0.9**	**11580**	**31.2**	**3.6**	**4.1**	**4.2**
Serbia	0.1	12933	23.4	9.2	6.8	3.1
Kosovo	3.8	8307	/	4.9	6.2	4.1
Montenegro	0.2	14271	19.8	3.8	13.6	5.9
Slovenia	-1.0	28390	8.5	2.2	0.8	4.5
Bosnia and Herzegovina	0.1	9915	27.8	2.8	2.4	4.3

Source: World Bank (2018)

3.8. The Labour Market

The transition affected the Macedonian labour market to a large extent. The structural changes in the economy, such as de-industrialisation, privatisation, reconstruction and elimination of the existing poorly performing companies, had reduced production (State Statistical Office, 2010). This contributed not only to the degradation of the physical capital (Micevska et al., 2002), but also to job destruction, leaving many people jobless, especially low-skilled workers (Jovanoska et al., 2002). In addition, the new market-oriented economy was an environment where some enterprises could endure only by restricting their cost (Zalduendo,

2003), and their initial solution to the lack of competitiveness in the market was to cut their labour cost (Micevska et al., 2002).

The newly created enterprises in the private sector did not have the capacity to absorb the workers that were left without a job after the reforms in the economy (Nikoloski & Pechijareski, 2017). Labour demand was limited due to restricted job creation (Zalduendo, 2003). In addition, the human capital did not fit the new environment and the requirements of the modern economy, as many had been educated and trained under the old system (Ercan Su et al., 2013). For example, management lacked expertise and needed further training in order to gain appropriate skills for managing the new companies. However, the government did not provide additional training for workers. Hence, the effect of the transition was reflected in people's employability and career prospects, due to the mismatch between the skills required and those offered (Cazes & Nešporová, 2003). Aside the changes within companies, the adjustment of the labour market to the changing environment was meant to be facilitated by adequate policies, regulations and laws in order to influence job flows and prevent unemployment (Nickell et al., 2005). But, the adjustment was slow and came with a social price of increased unemployment and unpaid wages to those who were employed (Micevska, 2008).

The consequences of the transition reforms have also been reflected in the depressed labour-market conditions in more recent times (Nikoloski & Pechijareski, 2017). The major concerns include a stubbornly high unemployment rate, high inactivity of the working-age population, low participation rate and low employment, a large number of people engaged in the informal sector and strong segmentation of the labour market (Petreski et al., 2016). In addition, the Macedonian labour market is not inclusive in practise, and it is confronted by obstacles (e.g. participation barriers, employment barriers, and benefit disincentives) that discourage the employment of females, the young, and less educated people (Morgandi et al., 2013), increasing their risk of social exclusion (Bertelsmann Stiftung, 2018).

3.8.1. Employment

Figure 3.6 shows the changes in the employment rate between 1991 and 2014. During the transition, the country lacked the fundamental condition for stable socio-economic development, full employment. Fluctuating from about 32% in 2004 to about 40% in 2014, the employment rate in Macedonia is low by international standards. The low rate of employment in the first years of independence is the result of the macro-economic reforms. The newly established private enterprises made competition stronger, threatening the existing enterprises, which were forced to be more productive and to decrease costs through lowering employment (Bertelsmann Stiftung, 2018). Following the ups and downs from the disintegration in the first fifteen years, with the deepest decline occurring in 2004, the employment rate stabilised and assumed an upward trend. The increase may have been due to relatively stable economic growth, as well as the rise of employment in the public sector and in the agriculture sector as a result of the reduction of unregistered economic activities (European Commission, 2011). More specifically, the Ministry of Labour established the labour inspectorate to act against the informal sector and its illegal activities in terms of reported employees and working hours. The labour inspectorate controls registration of job positions, employment contracts and their expiration and job advising (European Commission, 2012). Between 2009 and 2012, the steadier increase of the employment rate was a consequence of the global crisis.

Figure 3.6 Employment to Population Ratio in Macedonia, Total Aged 15+, Total (%) (ILO Estimate)

Source: World Bank (2018)

3.8.2. Employment Structure

With the structural changes in enterprises during the transition, a large share of employees was reallocated from manufacturing and agriculture to the service industry (Fernandes, 2009). In the following years, job creation continued to be highest in services, while the share of employment in the agriculture sector was constantly in decline (Nikoloski & Pechijareski, 2017). Thus, the majority of the employed in Macedonia work in the service sector. Another specific feature of the employment in Macedonia is the large share of temporary contracts, higher than in other countries in the region (Cazes & Nesporova, 2006).

In terms of the type of sector, the private sector employs the major proportion of total employed people, understandable since the transition process resulted in a greater number of privately-owned companies (Naughton, 1996). The share of the employed in the public sector, stood at about 20% of the labour force as of 2011 (European Commission, 2012). Those employed in public administration are often Albanians, as a result of the country's efforts to

deal with an equitable proportion of ethnic minorities represented in public jobs. However, the smaller ethnic groups are underrepresented (Soldi et al., 2014).

According to the World Bank (2018), the proportion of self-employed people fluctuates around 20%. For example, in 2008, it reached a peak of 28%. The self-employed set up their own businesses to escape unemployment, rather than as a result of having innovative ideas. Self-employed people remain resilient, even though they receive little or no access to credit (Rutkowski, 2003).

Part-time jobs relate to lower salary and therefore not preferred amongst Macedonian workers. However, due to low living standards and low labour demand for full-time jobs, people accept part-time jobs to avoid inactivity, especially males. Some females choose to work part-time to suit their household duties (Mojsoska-Blazevski & Kurtishi, 2012). In addition, females usually engage in low-paid jobs in small-sized private enterprises or secure jobs in the public sector. Female employment is higher for females with tertiary education, as they enjoy better career opportunities (Mojsoska-Blazevski & Kurtishi, 2012).

There is no formal evidence of the total number of people engaged in the informal sector, which often engages less educated people, ethnic minorities in rural areas (Mojsoska-Blazevski et al., 2013) who perform small-scale activities in labour-intensive activities, including agriculture (Nikoloski & Pechijareski, 2017). The concern is that as those people receive no training, deterioration of the human capital is likely to occur (Nikoloski & Pechijareski, 2017). Those jobs take a seasonal, temporary or occasional form (Trajkovski, 1999). Those jobs are seen as a temporary solution to unemployment that allows people to earn some money and keep their standard of living (Nikoloski & Pechijareski, 2017). Hence, the expansion of the informal economy is a result of the high rate of unemployment (Bornarova & Mitev, 2009). The informal economy in Macedonia accounts for about 25% of the economy (Petreski et al., 2016) and is represented by firms that are not officially registered; thus, they do not report profit and do not

pay taxes. The informal sector also exists among registered firms that choose to report an inaccurate number of employees, incorrect information on wages and the size of their output (Micevska et al., 2002).

3.8.3. Wages

The level of wages in Macedonia is low by international standards (Rycx & Kampelmann, 2012), a reflection of low productivity due to lack of capital formation because of insufficient savings (Micevska et al., 2002). Additionally, women's salaries are lower compared to men's (Bertelsmann Stiftung, 2018). Salaries in Macedonia are largely fixed and non-negotiable (Petreski et al., 2016).

The labour laws stipulate a minimum wage enacted in 2002, which initially referred to the salaries in the public sector only (Micevska, 2008). Later, minimum wages were set for full-time employees in other sectors, as well as in the textile, leather, and shoe industries (Rycx & Kampelmann, 2012). The minimum wage, based on the average wage and other criteria (Arandarenko & Vukojevic, 2008), has gradually increased. Wages increase faster in public salaries than in the private sector (Mojsoska-Blazevski, 2009, Lehmann & Muravyev, 2012).

Despite low wages, the total wage bill in Macedonia has been relatively high (IMF, 2006), because of the existence of a mandatory minimum base for social-security contributions and income tax paid by the employers on behalf of the employees (Mojsoska-Blazevski, 2012). Until 2006, the social contribution was sometimes higher than the minimum wage. This is because employers paid for pension and unemployment insurance at rates as high as 65% and for health insurance at around 50% of the national average wage (Rutkowski & Walewski, 2007). A high-wage bill has restricted the development and formal job creation aimed at low-wage labour (Angel-Urdinola & Macias, 2008), and has encouraged small private enterprises to choose the informal sector where legislation on taxes cannot be applied (Zalduendo, 2003).

In 2007, the Macedonian government implemented a flat personal income tax that reduced the tax burden of enterprises (Arandarenko & Vukojevic, 2008), consisting of a proportional personal income and profit tax system. Income tax paid by the employers initially decreased from 15% to 12%, and since 2008 to 10% (Ramadani et al., 2014). In addition to the reduction in the personal income tax rate, there was a gradual decrease in the social contributions rates from 32% in 2007 to 22% in 2011, while health insurance has been calculated on a per-hour basis (Trpeski & Tashevska, 2012).

3.8.4. Unemployment

Figure 3.7 shows that the unemployment rate in Macedonia is extremely high and, according to the ILO estimate, the highest across Europe (Mojsoska-Blazevski, 2009). The first seven years after the disintegration showed unemployment on an upward trend, as labour demand in Macedonia was reduced and a large number employees became unemployed. This resulted from the structural reforms in the delicate and prolonged process of privatisation, the delay in reconstructing government-owned enterprises (Micevska et al., 2002) and the reduction in size of labour-intensive industries, such as textile fibres and finished textile products (Micevska et al., 2002), as the transition process failed to diversify industries (Bertelsmann Stiftung, 2018). Additionally, reforms in administration led to the dismissal of unnecessary administrative employees and contributed to an increase in the existing high unemployment rate (Micevska et al., 2002). Another reason is the Greek embargo, which reduced trade, production and need for employees (Micevska et al., 2002).

After a slight decrease between 1997 and 2001, unemployment reached a peak of 37% in 2005. The rising trend also may be explained by slow economic progress, insufficient job opportunities, inclination of the unemployed to register at the Employment Bureau, as they are entitled to free health insurance (Micevska, 2008) and a large number of people employed in

the informal sector (Ercan Su et al., 2013).[17] Moreover, the rising trend may be a result of reduced economic activity due to the war-wise crisis in 2001.[18] Reduced collaboration between foreign businesses and domestic partners during the global crisis resulted in dismissed employees, especially from the textile industry, between 2009 and 2010 (Majhosev & Hristova, 2012).

Figure 3.7 Unemployment in Macedonia (% of Total Labour Force) (ILO Estimate)

Source: World Bank (2018)

3.8.5. Characteristics of the Unemployed

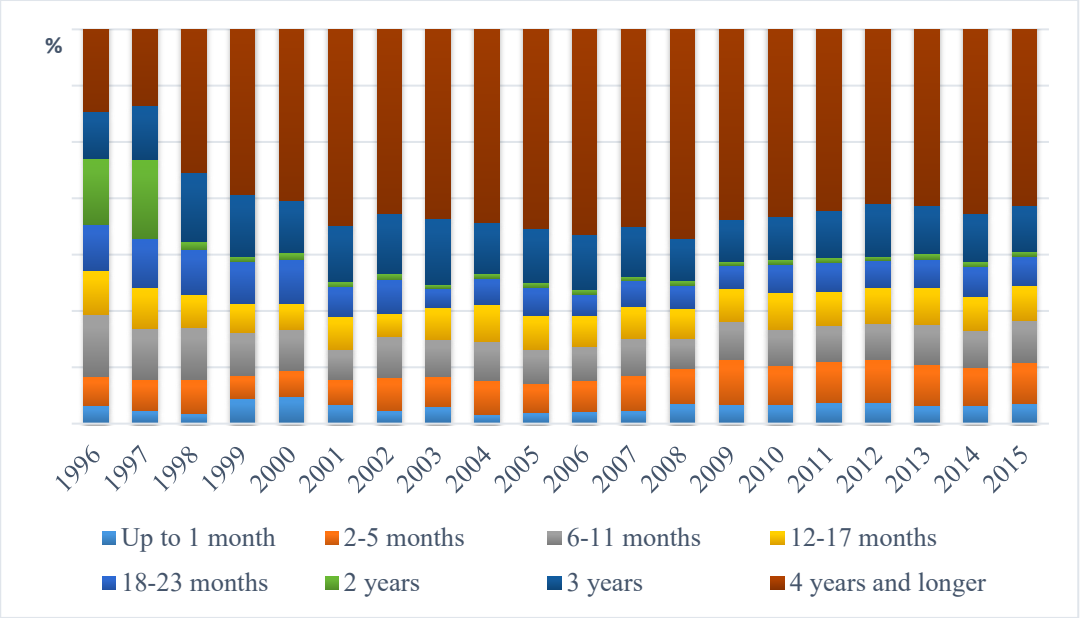
Unemployment in Macedonia is mainly structural, caused by the structure of the economy in which the primary sector is dominant while the secondary sector is insufficient and uncompetitive (Shukarov, 2012). There is a mismatch between the skills employers require and those the potential candidates offer (Soldi et al., 2014), deriving from low qualifications and lack of specialization and working experience (Mojsoska-Blazevski, 2009).

The share of the long-term unemployed in the total unemployed population is about 80% (Nikoloski & Pechijareski, 2017), suggesting that almost every unemployed worker in

[17] Thus, the presence of a considerably sized informal economy may misrepresent the high rate of unemployment (Soldi et al., 2014).
[18] Enterprises avoided engaging new employees in times of political instability (Micevska et al., 2002).

Macedonia struggles to find a job (Mojsoska-Blazevski, 2009). Of those long-term unemployed, people who are not at work for longer than four years have the largest presence, as Figure 3.8 shows.

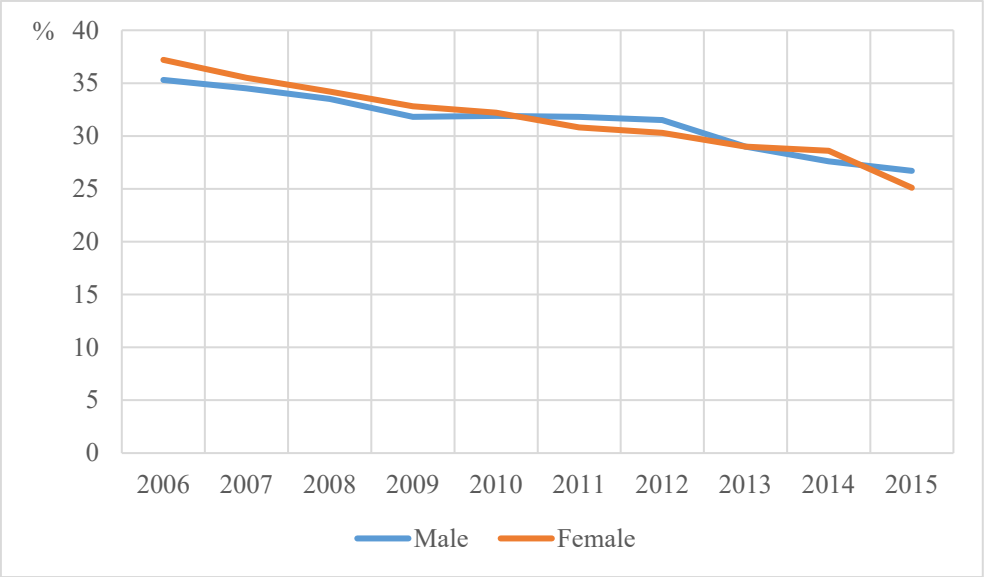
Figure 3.8 Unemployment Duration in Macedonia (% of Total)



Source: State Statistical Office (2018a)

The unemployment rates between genders are quite similar (Figure 3.9), although Mojsoska-Blazevski et al. (2013) find that female participation is lower than male participation, due to the existing traditional norms of family responsibilities, with the result that women do not receive continuing education and training, nor have they any incentive to look for a job (Mojsoska-Blazevski et al., 2013). Moreover, during the transition, most of the textile companies where females were predominantly working were shut down, so they lost their jobs. This affected their future employment prospects, as their skills were no longer needed (Mojsoska-Blazevski, 2009).

Figure 3.9 Unemployment Rates by Gender in Macedonia



Source: State Statistical Office (2018b)

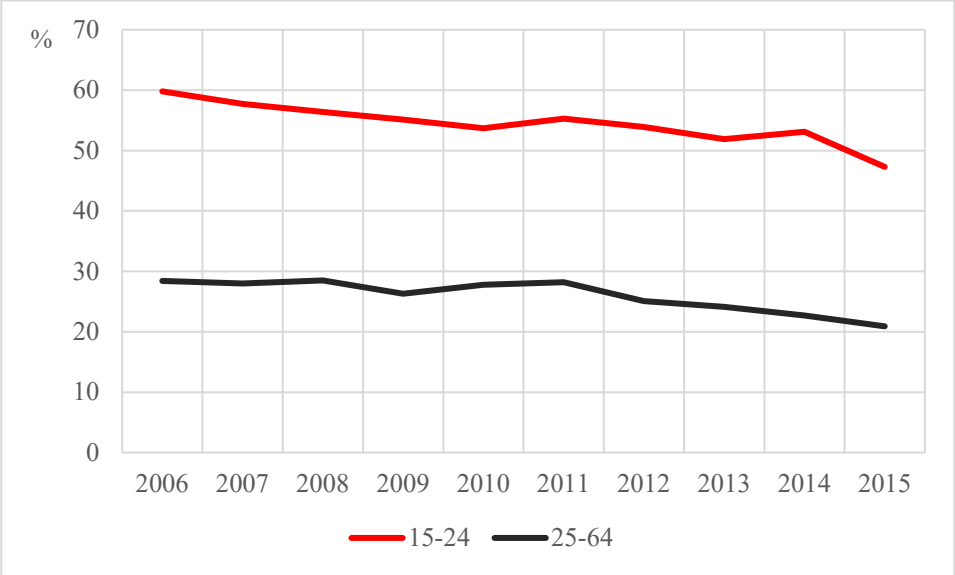
Figure 3.10 shows that the unemployment rate is higher amongst people aged 15 to 24. Young people suffer more from unemployment because they have fewer employment opportunities, due to the absence of appropriate skills gained through education, lack of the relevant working experience to meet employers' needs, reduced chances for undertaking training or internships, due to reluctance of employers to provide training for the inexperienced prospective candidates, and low mobility (Mojsoska-Blazevski & Kurtishi, 2012).

The slight decline in youth unemployment in recent years may be explained by the continuous education pursued by young people, which keeps them from entering the labour market longer (Ercan Su et al., 2013). In Macedonia, the employment of young people depends on their social status, networks and membership in the leading political party, although political employment is not secure and tends to change with the shift of political power (Babanoski, 2014). Often, the education of their parents is more important for their employment opportunities than the skills and education of the actual young person (Shukarov, 2012).

Moreover, some minority groups are restrained from employment possibilities due to factors such as centralisation of employment entities in bigger cities, difficulties that face

minority groups in undertaking training in language they understand and discrimination against gay people or drug users (Mojsoska-Blazevski et al., 2013).

Figure 3.10 Unemployment Rates by Age in Macedonia



Source: State Statistical Office (2018b)

Despite the high rate of unemployment, contemporary companies struggle to find appropriate employees. Potential candidates lack soft skills, despite the increased number of educated people who hold a tertiary degree (Bartlett, 2013b). Apart from such employment obstacles, participation barriers suggest that people are not well informed about labour demand or/and they must take care of family members. Benefit impediments also exist, deriving from the systems of taxation, labour and social protection. Such impediments restrict individuals from becoming self-sufficient (Mojsoska-Blazevski et al., 2013), while also limit disadvantaged people in becoming employed (World Bank, 2003). Aiming to facilitate job-seeker access to information while at the same time providing support to employers to advertise job vacancies, the United States Agency for International Development (USAID) invested in developing an electronic system to unite labour demand and supply, and to register and terminate employment contracts (Ercan Su et al., 2013).

Unemployment is one of the most serious problems facing the country, for several reasons. First, when the country does not fully employ its potential resources and lacks the contribution of the unemployed to the economy, it is an impediment to economic progress (Alchian, 1969). Second, the high rate of unemployment decreases wages in the country (Nikoloski & Pechijareski, 2017). Third, during the span of inactivity, the unemployed experience deterioration of their skills and knowledge, affecting their future employment prospects (Nikoloski & Pechijareski, 2017) and increasing the risk of staying unemployed longer (Van Ham et al., 2001). That situation makes the individual less attractive from the perspective of an employer and decreases the motivation of the unemployed to look for a job, the so-called 'discouraged worker effect'. Reducing unemployment was included as an objective in the National Strategy for European Integration from 2004, and the government efforts were further reinforced by the implementation of the Working Programme of the Government 2006–2010, with an aim to increase employment (European Commission, 2007b).

3.9. Education

Assuming that the highly educated and skilled people will contribute to an entrepreneurship climate that will prevent unemployment in the country, the government has been investing in education, training and lifelong-learning programs (Ercan Su et al., 2013). The administrative entities and institutions were helped out by international organisations, in the form of financial aid or technical expertise (Ercan Su et al., 2013). The public expenditure on education relative to GDP has increased over the years (European Commission, 2012) and education was set to be one of the main objectives of the government programme 2008–2012 (World Bank, 2010), was promoted in 2009 with the 10-year Strategy for Regional Development.

The reforms targeted all levels of education and led to higher school attendance and decreased numbers of early school-leavers (European Commission, 2007b, 2008, 2009, 2010, 2011, 2012). With regard to the reforms in primary education, the number of teachers was increased, additional training for gifted children was provided, educational materials were provided free to students, free transportation for the students living a long distance from schools and additional financial support were given to certain families that receive social cash transfers (Gerovska Mitev & Stubbs, 2012). In 2010, the right to education in one's mother tongue was granted to minorities (European Commission, 2010).

In terms of secondary education, business education and new subjects were introduced including entrepreneurship, ethics, media and environment. In 2008, secondary education became obligatory and families that did not enrol their children in high schools were fined. Tertiary education reforms included third-cycle doctoral studies launched in 2012 and opening of private colleges and universities. Dispersed studies spread state universities to small towns, enabling local citizens to become students (Nikolovska, 2013). Funding targeting Roma people was provided to give people incentives to continue tertiary education, and a new section for Roma language in the state university was opened. In 2011, a programme for scientific research activities, technological development and culture was adopted. Last, informal education was promoted and a centre for adult education was established along with career training, as part of the new EU Life Learning Programme and Youth in Action, offering opportunity to employees to upgrade their skills and knowledge to better match the needs of the labour market (Mojsoska-Blazevski, 2009). It should be noted that results from those programs are of a quantitative nature only, and even educated people fail to meet the potential employer's requirements (Nikolovska, 2013).

3.10. Social Issues in Macedonia

3.10.1. Poverty, Income Inequality and Social Exclusion

The transition process deteriorated the social conditions, which became economically and socially difficult to bear (Bartlett, 2007), attributed to the increased unemployment, low levels of participation in the labour market and dramatic decline in workers' purchasing power due to adjustment of real wages (Micevska et al., 2002). A large number of people who were pushed into severe conditions became dependent on the underdeveloped social-welfare system (Micevska et al., 2002, Maglajlić & Rašidagić, 2011). The urge to aid those who suffered the most imposed an immense load on the limited budget and thus constrained the country's social progress (Ružin, 1999). About 75,000 households needed to receive social aid (Bacanovic & Jovanova, 2011). A substantial number of households in Macedonia were limited in their consumption and relied on borrowing money (Trajkovski, 1999), while many engaged in the informal sector (Ružin, 1999) and home food production (Micevska et al., 2002). The transition in Macedonia also widened the gap between the poorest and the wealthiest people as the middle class was considerably reduced (Nikoloski, 2012). Inequality between people increased as the society was converting to a type of capitalism where the privatisation model and the grey economy provided a fertile ground for immoral practises, allowing some people suddenly to become very wealthy and influential (Ignjatović, 2012).

As a result, the Macedonian population became socially sensitive to the risk of poverty and social exclusion (Shukarov, 2011). The poverty rate in Macedonia was about 27% in 2010, gradually reduced to 21.9% in 2016 (World Bank, 2018), and yet is the highest within the western Balkan region (Bertelsmann Stiftung, 2018). The expenditure of about one-fourth of the population in Macedonia is below the threshold of 70% of the median equalised disposable income in the country (Gerovska Mitev, 2015). Although unemployment and inactivity are seen as a source of poverty (Micevska et al., 2002), even people who are employed in Macedonia

may be prone to poverty, especially those who accept any kind of job (Bertelsmann Stiftung, 2018), have several dependent children (Mojsoska-Blazevski et al., 2013), are minorities such as Albanian and Roma people (Bartlett, 2010) and families where the head of the household has no degree (Gerovska Mitev & Stubbs, 2012). Apart from poverty in material terms, there is also poverty in cultural terms, due to failure in development of fundamental areas of a civilised society (Mitrevska, 2008). Poverty is a source of social exclusion. About 40% of the Macedonian population is at risk of social exclusion (Bertelsmann Stiftung, 2018). Poor people are marginalised when it comes to participation in education, labour market and engagement in cultural and civic activities (Shukarov, 2011).

3.10.2. Social Protection and Social Assistance

The Ministry of Labour and Social Policy is the key institution that enacts the laws, supervises the implementation of policies, and controls the work of the system of social protection and social assistance (Gerovska Mitev & Stubbs, 2012). Adopted in 2010, the 'National Strategy for Reduction of Poverty and Social Exclusion 2010–2020' is the key strategic document regarding the creation of social policies. Its main focus is on improving living, working and social conditions, facilitating systematic and institutional interaction for boosting development (Gerovska Mitev & Stubbs, 2012), diminishing the risk of poverty and exclusion of vulnerable people within the society (Gerovska Mitev, 2015) through limiting low labour-market participation, promotion of formal employment, equal opportunities for access to education, public services and housing of those with a greater risk of exclusion related to age, geographic regions, and families with many members (Shukarov, 2012).

3.10.2.1. Provision of Contributory Benefits

In order to protect people in the labour market, social protection consists of provision of contributory benefits including pensions and disability insurance; passive labour-market programs such as unemployment benefits; and active labour-market programs such as employment services, including a self-employment programme; and social-assistance programmes targeting poor people (Gerovska Mitev & Stubbs, 2012, Mojsoska-Blazevski et al., 2013).

Regarding the unemployed, the government offers unemployment insurance to the registered unemployed, which consists of free health insurance and unemployment benefits financed by the contribution of 1.4% of the wage while employed (World Bank, 2003). The amount of unemployment benefits is about 35% of the national average wage, which is insufficient for minimum living standards (Gerovska Mitev, 2015). Such a low amount affects the development of the children of the unemployed (Trajkovski, 1999). Moreover, access to the unemployment benefits has declined since 1997, as the system for unemployment protection has faced a reduction in funding (Mojsoska-Blazevski et al., 2013). As of 2012, the share of the unemployed who receive unemployment benefits stood at 10% of the total registered unemployed (Mojsoska-Blazevski et al., 2013). Beneficiaries can receive unemployment benefits for a maximum of fourteen months, conditional upon their previous labour-market status, after having worked for a designated amount of time (Gerovska Mitev & Stubbs, 2012). Thus, the unemployed who are recent entrants in the labour market or the long-term unemployed cannot enjoy unemployment benefits, yet all registered unemployed are entitled to free health insurance (Micevska, 2008).[19]

[19] This also covers people involved in the informal sector.

The Macedonian government has been applying active labour-market programs, for which it has received help from the United Nations Development Programme (UNDP) (Maglajlić & Rašidagić, 2011). The aim of those policies is to encourage training, counselling and public work for the unemployed and inactive people, in order to develop human capital, initiate work stimulus and thus prevent unemployment (Gerovska Mitev & Stubbs, 2012). The realisation of strategies and plans divorced from the proper volume of financial and administrative resources makes the local social-services system weak in delivery (Soldi et al., 2014).

One such programme is boosting employment through supporting entrepreneurship and self-employment and allows entrance of small and medium-size businesses, in order to stimulate growth and create jobs (Mojsoska-Blazevski et al., 2013). However, the impact of those policies is limited due to the passivity of the labour market, the existence of a widely spread informal economy and providing the same support to all unemployed and not taking into consideration their specific personal needs. In addition, the duration is short and the constrained budget allows a limited share of the unemployed to take part in these programmes (Crnkovic-Pozaic & Feiler, 2011).

3.10.2.2. Housing

Turning now to housing, socially vulnerable groups of people were targeted by the new strategy from 2007 for social dwellings, including long-term unemployed, unemployed parents with dependent children and the employed with a low level of income (Ministry of Labour and Social Policy, 2013). Starting in 2009, the process of building resulted in five hundred apartments allocated to the unemployed, recipients of social financial aid and ethnic minorities. In addition, some groups in the population (mainly newly married or young single people) benefited from the new legislation that addressed the issue of lacking financial means to get loans, by enhancing their creditability to acquire a house. Another law from 2010 facilitated the

'transfer of ownership' and gave chances to tenants to buy (under reasonably favourable conditions) the socially owned apartments where they have lived for over twenty-five years. In 2011, the government legalised houses that had been illegally built (Official Gazette of the Republic of Macedonia, 2011).

3.10.2.3. Health

In the area of health services, the government introduced several reforms for the improvement of the healthcare system (Gerovska Mitev & Stubbs, 2012). For example, there were amendments of the law on health in 2009 to assure provision of access to social insurance for all citizens. A new law was prepared on health protection and a law on health insurance from 2012 regulates health professionals and the system of accreditation of healthcare institutions (Soldi et al., 2014). In the period of interest for this thesis, privatisation of primary healthcare services occurred. In 2011, a new national strategy for sexual and reproductive health was introduced, and more funds for various health programs including early diagnosed malignant diseases were adopted. Implementation of a new national strategy on equality of rights of people with disabilities 2010–2018 and supportive social-services centres accepting people with disabilities opened in 2010, along with modernisation of mental-health institutions and inclusion of the civil-society provision of mental-health services (European Commission, 2012) and increased numbers of healthcare employees. In order to make health services more affordable, the price of medicines declined (VAT was reduced in 2008) and electronic health insurance cards were introduced in 2010 as part of modernisation of the healthcare system, to facilitate the record-keeping on patients (Gerovska Mitev & Stubbs, 2012).

3.10.2.4. Remittances

Despite government efforts to help those in need of social protection, public social safety nets are not sufficient to compensate for the financial situation of all people in need (Bertelsmann Stiftung, 2018). This encourages Macedonians to find different ways to cope with their situations. For example, income in the family is distributed among all the members, including the unemployed (Nikoloski & Pechijareski, 2017). In difficult financial times, there is also reliance by parents in Macedonia on additional funds provided by their children (Apostolska & Gulija, 2013). Another coping strategy of Macedonians with unemployment and socio-economic tensions is emigration. On one hand, emigration allows those who emigrate to find a job abroad, and on the other hand emigrants help the economic situation of their families left behind by sending remittances (Nikoloski & Pechijareski, 2017). Students, elderly and retired people are the ones who benefit the most (Soldi et al., 2014). This financial support is crucial for higher household consumption, including the purchase of properties, cars, land or farms, or paying for ceremonies such as weddings and funerals. Thus, remittances have short-time positive implications, such as increasing the living standard of the family and decreasing the risk of social exclusion. However, some families left behind may have a higher risk of poverty and social exclusion where spouses are separated and children are left behind with a single parent (Bornarova & Janeska, 2012). Since immigration rates in Macedonia constantly grow, remittance inflows sent to the family left behind rise too. This has also contributed to handling the consequences of the economic downturn, allowing some people to meet their needs for food, health and education (Petreski & Jovanović, 2013). However the long-term effect of the remittances is rather negative if due to secure ‘income’ received from abroad, family left behind may choose to not work (Global Development Network, 2009, Nikolova & Graham, 2015, Mughal et al., 2013).

3.11. Summary

Following the separation from Yugoslavia, Macedonia abounded with central planning and started the transformation of its economy following the market model. This transition has also seen a transformation of the past political regime and governance, a complete overhaul of the institutions and a re-integration of the country into the global market (Aslund & Djankov, 2014). The set of large-scale structural reforms involved changes in the economy, such as privatisation, and trade and price liberalisation; social challenges including unemployment and poverty; and intensified political concerns, referring to the conflicts between ethnic groups, most of which turned out to be problematic (Bacanovic & Jovanova, 2011). The completion of the transition was hindered by other obstacles to the country's prosperity, such as severe drops in GDP, high inflation, deterioration of labour-market conditions, little investment, war-like disturbance, political instability, intense emigration, intolerance and pressure because of the multi-ethnic nature of the country (Maglajlić & Rašidagić, 2011), which hampered the transformation of the country (Majhosev & Hristova, 2012).

It was only in 2012 that the European Commission (2012) evaluated the overall progress in the country as positive, in terms of nearly full competition of privatisation where the economy is led by market forces and macroeconomic stability is achieved. However, some fundamental challenges in Macedonia remain. These include institutional and administrative weaknesses, institutional nationalism with inadequate performance of the state in regard to improving institutions, widespread corruption, weak democracy, political instability, vulnerable relations between ethnic groups and restricted and controlled mass media and expression (Ercan Su et al., 2013). These have been noted to handicap the full prosperity of the country (Karameti, 2014). The labour market also shows imperfections. High unemployment rates of over 30%, of which long-term unemployment is at alarming levels of 80%, interact with other economic and social issues, including poverty, social exclusion, income inequality and inadequate education.

Not only have living conditions in Macedonia worsened following the implementation of reforms after the country became independent; people are permanently exposed to uncertainty and tensions that disorganise their lives and make them feel uncertain about their future (European Commission, 2012).

Against this background (see Table A3.1 for a timeline of the main events), Macedonia remains a young state characterised by fragility, vulnerability and weakness, and is lagging behind in terms of building a modern society according to recent world trends (EBRD, 2017). Importantly, where the efforts of Macedonian leaders are focused on stabilising the economy and integrating it with regional and global markets, SWB seems to receive lower priority (Soldi et al., 2014). Government programmes and policies seem to cater to some aspects of people's lives that are thought to be important for SWB, such as those concerning education, health and the labour market. However, based on evidence suggesting that SWB is still low and below the EU average (Soldi et al., 2014), more focussed and renewed efforts are needed to improve people' lives. Therefore, this research uses large-scale survey data to examine in depth the factors that influence people's perception of their lives in Macedonia.

3.12. Appendix

Table A3.1 Key Political and Economic Events in Macedonia, 1990–2018

Year	Key events
1990	The government changed from socialist state to parliamentary democracy 2018 large enterprises; 1500 targeted for privatisation
1991	Proclaimed independence from the former Yugoslavia A new constitution adopted, and a new president elected 240 enterprises were privatised
1992	The Federal Republic of Yugoslavia acknowledged Macedonia's succession Denar currency introduced allowed to float freely
1993	Admission to the United Nations under the name FYROM
1994	Greece imposed a trade embargo and blocked any acceptance in the international institutions by using its power to veto new members Privatisation of the banking sector started
1995	Removal of a particular symbol from the flag; revising the constitution Became a member of the Council of Europe Reconstruction and privatisation of 25 large loss-making enterprises including the state-owned electricity utility and the railways Deutsche mark anchor introduced
1996	The privatisation of the agriculture enterprises and cooperatives, the insurance sector and game of chance companies started Macedonia opened a stock exchange
1999	A new law on privatisation of state capital NATO begins bombarding Yugoslavia; Exodus of Albanians into Macedonia
2001	Western-backed Ohrid peace agreement signed greater recognition of ethnic-Albanian rights, new constitution incorporating reforms 1646 companies completed the privatisation, 113 underwent privatisation
2002	Nationalist (VMRO) government loses elections
2005	Macedonia becomes a candidate for EU membership The privatisation agency shut down; privatisation was largely completed
2006	The leader of the centre-right VMRO-DPMNE party forms a governing coalition with the Democratic Party of Albanians and three smaller parties following general elections a massive sell-off of shares NATO offered the prospect of Macedonia's invitation to join
2008	Greece blocks a NATO invitation for Macedonia
2009	Visa-free travel within EU's Schengen zone
2012	Transition largely completed, an economy driven by market-forces
2015	Inter-ethnic clashes in the northern town of Kumanovo
2016	Prime Minister (VMRO) steps down
2017	SDSM leader forms a coalition with ethnic-Albanian groups
2018	A referendum to change country's name to North Macedonia, low turnout

Source: Author based on the refrences throughout the chapter.

CHAPTER 4

SOCIO-ECONOMIC DETERMINANTS OF SWB IN MACEDONIA

4.1. Introduction

Due to data availability, SWB studies tend to focus on developed countries. Inadequate SWB data (Easterlin, 2009) or low quality of existing datasets (Skoglund, 2017) leads to less focus on transition economies. In addition, very little research is done solely on Macedonia, beyond the evidence provided in the EQLS reports. While useful in presenting an overall picture of SWB in the Macedonian population, these reports use one type of regression—OLS—and do not investigate the effect of a range of variables on SWB.

This chapter investigates the relationship between the socio-economic determinants and SWB in Macedonia, using statistical techniques that have not been employed in other reports on Macedonia. Ordered probit and OLS regressions have been used in order to investigate whether the findings from other transition countries discussed in section 4.2. hold in Macedonia. By doing so, the chapter expands the existing evidence about the socio-economic determinants of SWB in transition countries. The analysis separately examines the determinants associated with the evaluative and hedonic aspects of SWB in Macedonia because of evidence that suggests the association of different metrics of SWB with different determinants. For example, Kahneman and Deaton (2010) find that income and education are more important for evaluative SWB, while health is more important for hedonic SWB. Similarly, in transition countries such

as Russia and Ukraine, health is of greater importance for happiness than for life satisfaction (Abbott & Sapsford, 2006).

Quantile regressions are also used to provide a more complete analysis, when exploring the impact of the same determinants at different points on the SWB distribution. Thus, this chapter also represents an extension of a few empirical studies that looked at the entire distribution of the SWB scale, and found a decreasing importance of health, income and education in moving up the SWB distribution scale (Binder & Coad, 2011b, 2015, Graham & Nikolova, 2015).

While existing SWB studies are often under-theorised (Griffiths & Reeves, 2009), some scholars have successfully drawn on the theoretical underpinnings of the capability approach (Nussbaum & Sen, 1993) to enrich current research in this field (Anand et al., 2005, Anand & Van Hees, 2006, Veenhoven, 2010, Van Ootegem & Spillemaeckers, 2010, Lima, 2013, Graham & Nikolova, 2015). This chapter borrows concepts from the capability approach (see section 2.5) and extends the understanding of the association between capabilities (called socio-economic determinants in this thesis) and SWB in Macedonia. In this case, self-reported data from the EQLS are used as proxies for capabilities, while data from self-evaluated SWB are used as proxies for functionings (i.e. individuals' achievements or situations/states that they value or find important).

Broadly, the purpose of the chapter is to examine which socio-economic determinants relate to people's SWB in Macedonia. Therefore, the research questions that the chapter sets out to answer are as follows: 'What specific socio-economic determinants are associated with SWB in Macedonia?'; 'What differences, if any, exist in the effect of socio-economic determinants across the two time periods (2007–2008 and 2011–2012) and the two measures of SWB (life satisfaction and happiness)?'; and 'How do the effects of the socio-economic determinants vary across different points along the distribution of SWB?'

The chapter is organised as follows. The next section provides a review of the literature on transition countries. A description follows of the data and the methods used to examine the data. Then, the results of the analysis are presented and discussed, followed by an attempt to place some of the findings in the perspective of broader macro-economic matters. This lead to conclusions that include recommendations for the government.

4.2. Empirical Literature

Given that no detailed study of Macedonia has been undertaken previously, the existing literature for other transition countries will provide a comparative context for this chapter's empirical analysis. Scholars mainly find that the majority of SWB determinants in transition countries such as the Eastern European transition countries (Hayo, 2007), including Albania (Litchfield et al., 2012) and Hungary (Lelkes, 2006), do not differ from what is already known about advanced economies (see section 2.8 for a summary of the common determinants of SWB). Marital status (e.g. divorced people report the lowest SWB) and gender in Kyrgyzstan (Namazie & Sanfey, 2001), education and household size in Armenia, Azerbaijan and Georgia (Habibov & Afandi, 2009), residential area (e.g. people from rural areas report higher SWB) in Poland (Winter et al., 1999), health in Russia and Ukraine (Abbott & Sapsford, 2006), and individual unemployment in Eastern Europe (Hayo & Seifert, 2003), have significant impact on SWB in the examined transition countries.

However, some determinants affect the SWB of people in transition countries differently, and studies have produced opposing results to what is often found in developed countries. For example, in Albania, the number of children one has decreases the level of SWB, and absolute (rather than relative) household income matters most for higher SWB.[20] In Azerbaijan and

[20] The analyses here also focuses on absolute income. The question that captures relative income (income in comparison to other people) was only asked in the 2011–2012 study; thus, it does not allow for comparison across the two waves.

Georgia, living in an urban area has a positive effect on SWB (Habibov & Afandi, 2009). Using data from the World Values Survey (WVS), Sanfey and Teksoz (2007) find that in the transition countries, the turning point in SWB occurs at the fifth decade of one's life. The same study found that students are happier than the employed (Sanfey & Teksoz, 2007). Moreover, other results show no effect on SWB of gender (Sanfey & Teksoz, 2007), marital status (Hayo & Seifert, 2003) and education (Namazie & Sanfey, 2001) .

These results for transition countries come from studies mainly using OLS estimation and, to a lesser extent, ordered probit (or logit) models. Summarizing forty years of voluminous research in SWB, Clark (2018) calls for more analysis focusing on the distribution of the SWB scale and the distributional rather than the average effect. Indeed, scholars have found that as one goes up on the upper points of the SWB distribution, the importance of income, health and social factors diminishes (Binder & Coad, 2011b). In a later study, Binder and Coad (2015) found a decreasing trend in the negative effect of unemployment with increasing quantiles. Another result applies to education, which has a positive impact at the lowest quantiles of SWB but negatively affects upper quantiles (Graham & Nikolova, 2015).

These results appear to reveal certain gaps in the existing literature, which require more research. First, while individual-country SWB research in transition countries was at its peak during the actual period of transition in the 1990s, it appears to have stalled in more recent years with only a couple of studies in more recent times (Litchfield et al., 2012, Graham et al., 2017). Second, no detailed study on Macedonia has been undertaken thus far. Third, the SWB literature typically focuses on the effect that a determinant has on the average SWB. Building on the evidence of studies discussed in this section, this chapter aims to contribute to current knowledge of the association of socio-economic determinants with SWB (on average and on different points on the SWB distribution), in the context of an individual transition country.

4.3. Data

Data from EQLS are used across the three empirical chapters (Chapter 4, 5 and 6). This pre-existing data source is appropriate because they were collected by experienced professionals and contain a substantial amount of information that allows comparison of SWB between groups within a country and across Europe (Eurofound, 2015). All the empirical chapters use data from EQLS from two waves, 2007–2008 (Wave 1) and 2011–2012 (Wave 2).[21]

The EQLS is a pan-European survey, carried out every four years and organised by the European Foundation for the Improvement of Living and Working Conditions (Eurofound). Since 2003, there have been four waves, offering the opportunity to analyse different patterns of trends and changes in people's lives. The survey includes objective aspects, such as income, employment, education, family, housing, local environment, health and work-life balance. The EQLS also asks about people's perception of their lives, social exclusion and satisfaction with the quality of society and access to and quality of public services (UKDA, 2016).

Eurofound has created a unified methodology and quality assurance system, in order to provide solid data. The quality and professionalism in carrying out the survey are handled by collaborators, GfK Significant in Belgium, which is also survey's constructor. For the final stage of quality control, the EQLS has subscribed to the European Statistical System, whose quality criteria are used in the assessment of the fieldwork once it is finalised (Eurofound, 2015).

The random sample used in these surveys is the result of a multistage and stratified design. Firstly, each country was split into parts according to geographic regions and levels of urbanisation. Next, several primary sampling units were selected. Addresses were chosen from

[21]It is worth mentioning some other existing sources that provide data on SWB in Macedonia; however, they were less appropriate than the EQLS. For instance, the WVS provides data on Macedonians in Wave 3 (1995–1999) and Wave 4 (2000–2004), but these data are not very recent. The EVS collected data for 1,500 Macedonian respondents in 2008, but since this is only one wave, the EVS does not allow for comparison over time. The Life in Transition Survey (LITS) has included Macedonia across the three waves (2006, 2010 and 2016). Yet, some concerns related to those datasets are that they have a question only on life satisfaction, but not happiness; and there are differences in phrasing of the questions and their order is changed. Finally, the Gallup Poll collects data every year, but access to the data is costly and it also contains a limited range of covariates.

the primary sampling units by applying a clustered sampling design. Finally, the person in the household whose birthday was closest to the date of the interview was selected to participate. The sampling frame should cover at least 95% of households in a particular country (Eurofound, 2015).

The target population is adults aged 18 or older, living in private households with a maximum of four adults in a family (Eurofound, 2015). For randomly sampled persons to have an equal chance of being interviewed, chosen addresses were visited roughly four times at different parts of the day in a period of more than two weeks (Eurofound, 2015). In terms of the type of survey data, questionnaires were used to elicit the information from participants, through face-to-face structured interviews in their houses. Each interview lasted an average of thirty-nine minutes (Eurofound, 2015).

The EQLS covers Macedonia as a candidate country for the EU. Data for the country were collected in two waves, through 1,008 and 1,006 interviews in 2007–2008 and 2011–2012, respectively. After cleaning missing values from the data, the remaining number of observations for Macedonia was 972 in 2007–2008 and 1,001 in 2011–2012. The response rate as a percentage of the gross sample was 61% in Wave 1 and 77% in Wave 2. The questionnaire from 2011–2012 was slightly enriched with some new questions. Comparing data from both waves is still possible because the questionnaires contained virtually the same questions. The questionnaire was translated into Macedonian and Albanian languages to meet the requirement of the country's ethnic structure, where 70% of the population is Macedonian and about 20% Albanian (Soldi et al., 2014). The translated questionnaires were piloted in order to avoid possible future problems with the actual study (Eurofound, 2015).

The data collected for each round, as well as a combination of them all as an integrated data file, are available without restriction for noncommercial uses through the UK Data Service

(Eurofound, 2015).[22] Several publications summarise some of the overall findings of the surveys. These include: 'Quality of Life in Europe: Subjective Well-Being' (Abdallah et al., 2013), 'Quality of Life in Europe: Trends 2003–2012' (Grijpstra et al., 2014), and 'Trends in Quality of Life-Former Yugoslavian Republic of Macedonia: 2003–2012' (Soldi et al., 2014).[23]

4.3.1. Variables

For the purpose of the analysis, capabilities are conceptualised as an indication of the opportunities available to people from which they can make individual choices in order to live the life they value. Anand et al. (2005) examined data from the British Household Panel Survey and concluded that the questions capture the capabilities listed by Nussbaum (2010). In the absence of a guide for choosing capabilities, scholars (Martinetti, 2000, Anand & Van Hees, 2006, Veenhoven, 2010, Van Ootegem & Spillemaeckers, 2010, Graham & Nikolova, 2015) select variables to include in their models based on data availability.

The selection of variables to represent capabilities in this thesis is also in accordance with Nussbaum's list (see Table A4.1.). It is also worth noting that the selected variables are the same ones found to influence SWB in previous research, such as health, income, education and employment status. These variables are grouped into subjective (or perceived) and objective capabilities. Subjective capabilities refer to people's perception of their own health conditions, while objective capabilities include education, employment activity and income. Finally,

[22] The fieldwork for the latest EQLS that includes Macedonia commenced in September 2016, after the thesis was started. The data were released in spring 2018, when the empirical chapters were being edited. The latest data changed the order of many questions, and particularly the main questions of interest—life satisfaction and happiness—that have come before all others and one after another. Answers on SWB questions largely vary with the order of the questions (Deaton, 2012) and topics asked before the SWB questions may prompt positive or negative SWB ratings (Nikolova & Sanfey, 2016), which may be a source of bias, making the results sensitive (Vecerník & Mysíková, 2014). Due to inconsistency in the questions across the three surveys, they are not directly comparable, as a trend may be not a good reflection of the reality and can occur due to question bias. Hence, the latest wave was not used in this thesis.

[23] Extensive information about the survey, data collected, and publications may be found at https://www.eurofound.europa.eu/surveys/european-quality-of-life-surveys.

translation of these capabilities into functioning (SWB) depends on what Sen (1985, 1991, 1993) calls conversion factors (further explained in section 4.3.1.2).

4.3.1.1. Dependent Variables

In terms of the dependent variables, the analysis focuses on two key components of SWB: evaluative (or cognitive) and hedonic (or experiential) aspects of SWB (see section 2.3 for detailed definitions), which are used as proxies for functionings. The data for the first, evaluative aspect of SWB was collected by asking respondents the question: 'All things considered, how satisfied would you say you are with your life these days?' The second, hedonic aspect was measured by the question 'Taking all things together on a scale of 1 to 10, how happy would you say you are?' The answers were recorded on a scale of 1 to 10, where 1 represents very dissatisfied (unhappy) and 10 represents very satisfied (or happy).

4.3.1.2. Explanatory Variables

The analysis is based on the capability approach and thus assumes that both life satisfaction and happiness are functions of a range of capabilities and that the transformation of the capabilities into SWB depends on the conversion factors (Sen, 1985, Nussbaum & Sen, 1993). Therefore, the models control for personal factors (gender, age and age squared, created in order to examine the nonlinear relationship with SWB), environmental factors (residential area) and social factors (marital status and children in the family).[24]

Marital status consists of four categories: married or living with a partner (married), divorced and not living with a partner (divorced), widowed and not living with a partner (widowed) and never married and not living with a partner (single). The question on the area of

[24]Attempts to include as many of the main variables of interest and control variables as possible were constrained by the content of the dataset, which was not intended to measure capabilities.

residence provided respondents with four possible options: the open countryside; a village/small town; a medium-to-large town; and a city or city/suburb. However, the answers were reclassified in the dataset into two groups: rural area (rural), consisting of the groups 'the open countryside' and 'a village/small town'; and urban area (urban) consisting of the groups 'a medium to large town' and 'a city or city suburb'.

Turning now to the capabilities, education, health, employment activity and household income were used as key variables of interest. Education had three categories: primary or less (primary), secondary and tertiary education. With regard to their employment status, respondents are organised into eight categories. The group of employed consists of people at work as employee or employer/self-employed, relatives assisting on the family farm or business, as well as individuals who are in employment status but are on leave for childcare or some other reasons. The unemployed have a further division of unemployed less than (short-term unemployed) or more than 12 months (long-term unemployed). The rest of the categories are full-time homemaker (responsible for ordinary shopping and looking after the household), student (people in education either at school or university), retired and other (anything else that is not covered previously as well as unable to work due to long-term illnesses or disability).

Another capability is self-reported health. Health is considered a perceived capability, and the categories on the question are as follows: very good, good, fair, bad, and very bad health. Since the measure of health is subjective, it may be biased if features of personality influence responses. However, the majority of SWB studies (Graham, 2008, Veenhoven, 2010, Blackaby et al., 2012) include self-reported health in their models, as it has been found that self-reported health relates to objective health (Wu et al., 2013). Throughout this thesis, the models also added controls for a range of other variables, to assure the robustness of the results regarding the relationship between SWB and health.

From the reported household income, income quartiles were calculated. These were 'equivalised' (based on a 'modified OECD' equivalence scale) to account for household size and composition (Förster & Pearson, 2002) and PPP-adjusted ('Purchasing Power Parity' adjustment of income for the exchange rates) at the country level to allow for reliable international comparisons (Lafrance & Schembri, 2002).[25] There are four categories in the income variable, sorted from the lowest to the highest. Due to lack of information on income for a fairly high percentage of the sample, an additional 'income not reported' category was created, where all missing values were assigned. This group includes people who did not know the exact amount of income or refused to report it. This helped to maintain the sample size and avoid bias from dropping observations due to missing data.

4.3.2. Descriptive Statistics

Descriptive statistics shed initial light on the variation in life satisfaction and happiness in regard to different socio-economic determinants (capabilities and conversion factors) across the Macedonian population. The results not only highlight SWB differences across sub-groups but also show how average SWB levels differ across years and across the two measures of SWB. The descriptive statistics are presented in Tables 4.1 and A4.2.

Table 4.1 shows the mean values for life satisfaction first and then for happiness, for each sub-group of the sample, alongside the number of observations from which these mean values are calculated. The raw mean differences show that in Wave 1, males scored better in both evaluative and hedonic SWB, while in Wave 2, there was a shift and women were happier and more satisfied with their lives. Across the two waves, the following groups of people reported the highest level of SWB: singles, those who live in urban areas, those with tertiary education,

[25] The calculation is based on the answer to the question 'Please can you tell me how much your household's net income per month is? If you don't know the exact figure, please give an estimate' (Eurofound, 2015).

students, people who reported very good health and respondents who belong to the fourth income quartile. An interesting observation is that married people scored lower than singles, which contrasts with the results from other studies (Coombs, 1991, Shapiro & Keyes, 2008). However, these are the unconditional mean values only and may be affected by other factors that are closely examined in the next section with regression models.

Table 4.1 Descriptive Statistics

	Life Satisfaction			Happiness				
	Wave 1	Wave 2		Wave 1	Wave 2		Wave 1	Wave 2
Variable	**Mean**	**Mean**	**Diff.**	**Mean**	**Mean**	**Diff.**	**Observations**	
Male	5.3	6.7	1.314***	6.2	7.1	0.903***	464	487
Female	5.1	6.8	1.674***	6.0	7.2	1.212***	508	514
Married	5.1	6.7	1.648***	6.2	7.2	1.053***	658	645
Divorced	4.8	6.1	1.308	4.6	6.2	1.509**	31	26
Widowed	4.8	5.6	0.868**	5.1	5.7	0.633*	109	94
Single	6.1	7.2	1.096***	6.8	7.7	0.944***	174	236
Rural	5.2	6.7	1.481***	6.0	7.0	1.055***	486	491
Urban	5.3	6.8	1.519***	6.2	7.3	1.067***	486	510
Primary	4.3	5.7	0.374**	4.7	5.2	0.427	152	51
Secondary	5.3	6.6	1.317***	6.3	7.2	0.883***	731	667
Tertiary	6.1	7.2	1.122***	7.0	7.5	0.544**	89	283
Employed	5.7	7.0	1.271***	6.7	7.6	0.863***	345	427
Short-term Unemployed	5.0	6.1	1.133	6.0	7.0	1.017	40	24
Long-term Unemployed	3.8	5.6	1.784***	5.3	6.5	1.195***	174	132
Retired	5.2	6.6	1.317***	5.9	6.6	0.720**	229	219
Homemaker	5.0	6.6	1.664***	5.4	6.8	1.362***	117	81
Student	7.2	7.6	0.412	7.8	8.1	0.350	62	105
Other	2.6	6.8	4.170**	2.4	6.9	4.523**	5	13
Very Good Health	6.4	7.5	1.051***	7.3	8.2	0.972***	238	428
Good Health	5.3	6.8	1.486***	6.5	7.1	0.547**	318	300
Fair Health	4.8	5.6	0.861***	5.6	5.9	0.286	292	209
Bad Health	3.9	5.2	1.290**	4.5	5.2	0.736**	98	55
Very Bad Health	3.3	3.9	0.620	3.1	3.7	0.662	26	9
First Quartile Income	3.8	5.4	1.578***	5.1	6.0	0.955**	217	171
Second Quartile Income	5.2	6.4	1.179***	6.1	7.0	0.876**	216	188
Third Quartile Income	5.4	7.0	1.626***	6.2	7.3	1.137***	217	155
Fourth Quartile Income	6.3	7.3	0.939***	7.1	7.5	0.451**	213	174
Income Not Reported	5.7	7.2	1.567***	6.2	7.7	1.442***	109	313
Total	5.2	6.7	1.501***	6.1	7.2	1.064***	972	1.001

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Mean values for SWB measures. Independent two sample t-test is calculated for the differences in mean between years. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

In addition, each category of the population showed higher SWB in 2011–2012 compared to 2007–2008. The analysis used independent t-tests to check whether the differences in mean values (i.e. the observed SWB improvements) across the different groups between the two waves are by chance or statistically different from each other. The results showed that most of the observed improvements (except the groups with a relatively small number of observations) in Wave 2 were statistically significant (Table 4.1).

Additional information is shown in Table A4.2, which provides summary statistics for all the variables. It is interesting and important to note that in the later wave, the number of people usually found to be happy in existing studies, such as people with tertiary education, and those who reported very good health have increased. Moreover, in 2011–2012, the number of divorced, widowed and people having basic educational qualifications, usually found to be the least happy and satisfied with their lives, decreased in the EQLS sample.

4.4. Econometric Methods

In this section, the previously obtained results from descriptive statistics, which provided an important basis for the more detailed analysis, are further examined by multivariate regression analysis. Different econometric models could be estimated to examine the relationship between SWB and the socio-economic variables. The standard regression techniques widely used in SWB research are OLS regressions and ordered probit (or logit) models.

The OLS approach focuses on the conditional mean of the dependent variable and allows an estimation of the effect that an explanatory variable has on the dependent variable, by controlling the influences of other observable differences (Verbeek, 2017). This method reduces the differences that appear between observed sample values and the fitted values of the model (Nelder & Wedderburn, 1972).

Ordered models are often used in situations where the responses on the dependent variables are observed on the ordinal scale. Given the ordinal nature of the dependent variables (life satisfaction and happiness), which also may be considered as a continuous scale (1 to 10), both types of regressions, OLS and ordered probit, are used.

In addition, and as a complementary technique, quantile regression models have been used to go into greater depth on the effect of the explanatory variables on the dependent variable. Quantile regression provides greater robustness for the estimation, as it allows for heterogeneous marginal effects across the conditional outcome distribution (Koenker & Hallock, 2001).

The following sections give the equations for the different models. Except for age and number of children, all other explanatory variables in the models are not numerical or continuous, and therefore a series of dummy variables has been created for those. The dummies correspond to the possible answers from the particular question. The dummies used in the regressions show the results relative to the omitted dummy, usually called the base or the reference group. The models also add a quadratic term for age, denoting a possible nonlinear relationship between age and SWB.

4.4.1. Ordinary Least Squares (OLS) Regressions

OLS models have been employed, so the dependent variables are treated as continuous (in their Cantril ladder format, where the answers are placed on a scale of 1 to 10), even though they are ordinal in nature. Ferrer-i-Carbonell and Frijters (2004) show that ignoring the ordinal nature of the outcome variable and treating it as continuous does not affect the results to a large extent. In fact, a large number of previous SWB studies (Di Tella et al., 2001, Blanchflower & Oswald, 2004a, Frijters & Beatton, 2012) have employed OLS, as the interpretation of the

coefficients is relatively easy to manage and widely understandable (Eggers et al., 2006). It also gives 'a quick benchmark' for more complex analysis (Verbeek, 2017).

Employing OLS regressions assumes a linear relationship between the dependent variable Y_i (life satisfaction or happiness) and the regressors X_i (self-reported actual and perceived capabilities and conversion factors):

$$Y_i = \alpha + \beta X_i + \varepsilon_i \quad (4.1)$$

where α is an intercept and shows the value that SWB of the individual i takes when the explanatory variables (X_i) have zero value, β are coefficient vectors, and ε_i is a residual or error term consisting of measurement errors, and additional factors not included in the model, such as unobserved personal traits.

Each SWB equation is repeated for each dependent variable (life satisfaction and happiness) and year (2007–2008 and 2011–2012). The models are employed on separate data from two waves, as the Chow test of equality of coefficients indicates that it is more appropriate to run separate regressions for each wave, rather than use integrated data (Chow, 1960).[26] In addition, running separate regressions for each year allows making a comparison over time. However, the results regarding the SWB trends should be taken with caution, as the data are cross-sectional rather than panel, and different respondents are selected in each wave.

Table A4.4 displays the results from some additional tests that were used to check whether the models are appropriate in terms of their statistical properties (according to established diagnostic tests for omitted variables, misspecification and heteroscedasticity). First, the

[26] The Chow test checks whether two samples have equal coefficients, in which case they will be used together in an integrated regression, where one regression line will be the best fit for both samples. Otherwise, the two samples require estimation separately. Results were obtained with the following formula: $\text{Chow} = \frac{\frac{RSS_p - (RSS_1 + RSS_2)}{k}}{\frac{RSS_1 + RSS_2}{N_1 + N_2 - 2k}}$ where: RSS_p is a pooled regression line, RSS_1 is a regression line before the break, RSS_2 is a regression line after the break, N_1 is a sample size of the first dataset, and N_2 is a sample size of the second dataset. In this case, pooling the two samples (waves) is not justified, as F statistic is greater than F critical (5.257 > 1.501 for life satisfaction and 2.495>1.501 for happiness).

Ramsey-Reset test has been used to test for correctness of the functional form (whether the model properly accounts for the relationship between the dependent and observed explanatory variables), by diagnosing the existence of any neglected nonlinearities in the model (Ramsey, 1969, Ramsey & Gilbert, 1972). The p-values from the Ramsey-reset test are all insignificant, showing that all the multiple linear regressions models passed the test for general functional form misspecification, in both years and for the two SWB measures.

Next, the link test checks whether the explanatory variables are specified incorrectly, by adding squared explanatory variables to the models, based on the assumption that if the regressions equation is properly specified, no additional explanatory variable is significant above chance (Pregibon, 1979, 1981). The link test produced insignificant p-values, thus rejecting the hypothesis (at least at the 5% level, since the p-value is 0.96 for the link test for life satisfaction in Wave 1) of the existence of a link error.

Finally, the Breusch-Pagan/Cook-Weisberg test detects any linear form of heteroscedasticity. In Wave 2, heteroscedasticity was present for both measures of SWB at the 1% significance level. The results do not reject the null hypothesis at the 10% significance level that the error variances are all equal, although it is rejected at 5% for happiness in 2007–2008 and at 1% in Wave 2. In order to avoid biased estimates of the standard errors and to account for problems such as lack of normality and heteroscedasticity (Stock & Watson, 2008), the Stata command -robust- is used. This method counters the influence of outliers by giving weight to particular units according to the overall influence they exert on the model (Mehmetoglu & Jakobsen, 2016). The use of the -robust- command does not change the coefficients that would have been obtained otherwise but provides corrected standard errors.

4.4.2. Ordered Probit Models

In order to check whether the results obtained differ with the technique used, ordered probit models were also estimated. This is appropriate given that life satisfaction and happiness responses were observed on the ordinal scale (1–10) and using ordered probit models does not assume that the intervals between the categories are equal. Blackaby et al.'s (2012) approach of using a split technique for the dependent variables was used for the regrouping of the responses of the dependent variables. Although the authors have four groups, applying the same to this study would have led to fewer observations in each of the levels. In order to keep a larger sample size of the different levels, SWB responses were reorganised in three categories as in Borooah's (2009) work. As an approximate measure of what might be thought as a particular level, these groups are 'low' (the responses 1–3 are grouped here), 'medium' (people who answered 4–7) and 'high' level (contains answers 8–10).

The basic idea is that there is a latent variable Y_i^* (SWB of an individual *i*) that underlies the ordinal SWB responses. Y_i^* is an unobserved variable known only when it crosses the threshold. The latent variable model is given as:

$$Y_i^* = \beta X_i + \varepsilon_i \qquad \varepsilon_i \sim N(0,1) \qquad \forall_i = 1, \dots, N \tag{4.2}$$

It is a linear combination of the predictors where X_i comprises the explanatory variables (self-reported capabilities including health, income, education and employment activity; and conversional factors such as gender, age and age^2, marital status, children and residential area), β is a vector of the coefficients to be estimated and there is a residual term ε_i that has a standard normal distribution.

The link between the observed SWB responses (measured on a ten-point scale initially but transformed to a three-point scale) and the latent Y_i^* is assumed to be an ordered probit. Thus, the observed ordinal variable Y_i, takes on values 1 to 3 through μ_j (which is an unknown threshold parameter and will be estimated with β) according to the following:

$$Y_i = j \quad \text{if} \quad \mu_{j-1} < Y_i^* \leq \mu_j \tag{4.3}$$

Threshold parameter μ_j is the intercepts in equation (4.2) and determines the estimations for different observed values of Y_i where j denotes the total number of different categories.

However, the parameters from the latent model do not have a direct interpretation, since Y_i^* is purely artificial. The result of interest, therefore is the conditional probability, which is the predicted ordered outcome distribution as the regressors change (Boes & Winkelmann, 2006). The aim is to observe how these changes in the regressors are reflected in the probability of observing a particular ordinal response. The probability of each ordinal category is:

$$Pr(Y_i = j) = Pr\big(\mu_{j-1} < Y_i^* \leq \mu_j\big) = \Phi(\mu_j - \beta X_i) - \Phi(\mu_{j-1} - \beta X_i) \tag{4.4}$$

where $\Phi(.)$ is the standard normal cumulative distribution function determined by the assumed distribution of ε_i. The probability that an individual i will select category j depends on the product $X_j\beta$ falling between cut points $(j-1)$ and j. The set of coefficients β relates to the predictors X_j and the threshold values, which relate to j alternatives. In order to estimate the model, maximum likelihood estimation is used.

4.4.3. Quantile Regressions

While OLS focuses on the conditional mean of the dependent variable, Binder and Coad (2011, 2015) argue that the SWB relationship between the dependent and explanatory variables may not be the same on different parts of the conditional distribution. Therefore, it is interesting to see the results from a regression that goes beyond the mean, especially as SWB data are usually quite skewed (Cummins, 1997, Gilbert & Abdullah, 2004). Indeed, in the EQLS sample, most individuals report higher SWB levels (see Table 4.1).

There are some additional points that make the quantile regressions worth considering. In particular, from a policy point of view, such analysis enables a more comprehensive assessment of a policy and recognition of whether it will equally benefit the people at the extremes or

different points on SWB distribution. For instance, boosting incomes may not change people's SWB in the same way at all parts of the SWB distribution. Therefore, knowledge about the determinants of SWB at different parts of the distribution may allow policy makers to better evaluate the effect of state provision of important public goods such as education (Bjørnskov et al., 2008a). Furthermore, a policy may be adequate in ethical terms, even if it makes a small impact on people's SWB, but it will not be ethically adequate if some people's SWB benefits are counterbalanced by a substantial loss for other individuals (Binder & Coad, 2011b). Quantile regressions thus enable investigation of such dynamics as the attention is drawn to the whole SWB distribution, rather than to the average.

By relaxing the assumption of equally distributed errors in each part of the conditional distribution, quantile regressions acknowledge the heterogeneity of the respondents. Even though they provide coefficients for different points across the distribution of the dependent variable, quantile regressions maintain the number of data observations, because they do not require the sample to be divided into different segments (and hence, possibly decreasing statistical validity). Quantile regression is a semi-parametric method, in the sense that it assumes a linear relationship (as OLS), but instead of averaging out over the entire distribution, it focusses on the different points of the conditional distribution. The quantile regressions model can be written as:

$$Y_i = X_i\beta_\theta + \varepsilon_{\theta i} \tag{4.5}$$

with

$$Quant_\theta(Y_i|X_i) = X_i\beta_\theta \tag{4.6}$$

where Y_i corresponds to SWB of an individual i, X_i is a vector of regressors (perceived and objective capabilities and conversion factors), β_θ is the vector of parameters to be estimated and $\varepsilon_{\theta i}$ is a residual or error term. $Quant_\theta(Y_i|X_i)$ indicates the θth conditional quantile of the outcome variable Y_i, given the explanatory variables X_i.

θth regression quantile (where $0 < \theta < 1$) solves the minimisation problem:

$$\min_{\beta} \frac{1}{n}\{\sum_{i:y_i \geq x'_i\beta} \theta|Y_i - \beta| + \sum_{i:y_i < x'_i\beta}(1-\theta)|Y_i - X_i\beta|\} =$$

$$\min_{\beta} \frac{1}{n}\sum_{i=1}^{n} \rho_{\theta(\varepsilon_{\theta i})} \tag{4.7}$$

The minimisation problem is solved by the linear programming method. $\rho_\theta(.)$ is called 'check function' and it is:

$$\rho_\theta(\varepsilon_{\theta i}) = \begin{cases} \theta\varepsilon_{\theta i} & if \ \varepsilon_{\theta i} \geq 0 \\ (\theta - 1)\varepsilon_{\theta i} & if \ \varepsilon_{\theta i} < 0 \end{cases} \tag{4.8}$$

Increasing θ continuously from 0 to 1 examines the entire distribution of the dependent variable conditional on the explanatory variables (Buchinsky, 1998). Weights are given to the data points according to their position around the line of best fit. Hence, the coefficients from quantile regressions are calculated conditionally on the explanatory variables, at different points of the distribution of the outcome variables, since the weights differ (Binder & Coad, 2015).

The quantile equations are operationalised using the -sqreg- command in Stata. To obtain higher accuracy when making a statistical inference, bootstrapping with 100 replications was used for the standard errors. The coefficients were estimated for the 25th, 50th and 75th quantiles of the distribution of life satisfaction and happiness. This means that the 25th quantile refers to the 25% least satisfied with their lives or least happy, conditional on the set of explanatory variables. Table A4.5 contains the results of a link test, which produced nonsignificant p-values for each level of the quantiles in all models, suggesting that the regressions equations are properly specified.

4.5. Results

4.5.1. OLS

The results from equation (4.1) for both evaluative and hedonic aspects of SWB from the two waves are given in Table 4.2. Most of the capabilities were significant determinants of SWB in Macedonia in the two years and across the two measures. Notably, long-term unemployment, health and income were the strongest statistically significant correlates of SWB. The long-term unemployed experienced lower SWB in each case, compared to the employed. The result is in line with findings of previous studies (Layard, 2004, Knabe et al., 2010). Health had a positive effect on SWB—that is, the better one's health, the higher the levels of reported life satisfaction or happiness. The dominant role of health in explaining SWB has been confirmed in other studies (Verbrugge et al., 1994, Deaton, 2008, Blackaby et al., 2012). Moreover, individual's SWB in Macedonia grows as the household income increases, and this is line with existing studies (Kahneman & Deaton, 2010). In terms of the magnitude of those effects across years and SWB measures, income had a larger impact on life satisfaction, whereas the effect of health was more sizeable in Wave 2.

The results regarding the rest of the capabilities are as follows. Compared to the employed, respondents belonging to the employment-activity groups of short-term unemployed, homemaker or other were less happy in 2007–2008, while the retired were found to be happier in 2011–2012. The lower levels of SWB amongst homemakers may be due to activities in which they engage, such as devoting more time to providing care for others to whom they connect emotionally (Marks et al., 2002). This may lead to loss of autonomy, and since autonomy is required for achieving high levels of SWB, homemakers may experience low levels of SWB (Ryan & Deci, 2001). Being a student had a positive and significant association with both aspects of SWB in Wave 1, in accordance with findings of other studies (Lelkes, 2006, Binder & Coad, 2011b). In terms of education, secondary education seemed to only lead to an increase

in happiness, but not in life satisfaction, in both waves. Holders of tertiary degrees were happier in 2007–2008, but no statistically significant results were found in 2011–2012. Education also has been found to be a determinant of happiness in Eastern European countries (Hayo & Seifert, 2003).

Turning now to the rest of the socio-economic variables (or conversion factors), the results are as follows. As found in other studies (OECD, 2011, Graham & Chattopadhyay, 2013), on average, females report higher SWB, except that it appeared as statistically insignificant for life satisfaction in 2007–2008. Moreover, marital status was also associated with happiness in both years. Happiness across the two waves decreased with being divorced, widowed or single.[27] Compared to being married, divorced people in Macedonia were the least happy, as in other transition countries (Namazie & Sanfey, 2001).

Except for happiness in 2011–2012, the U-shape relationship between age and SWB existed in all cases, implying that life satisfaction and happiness declined with increased age, until people reached the minimum level of life satisfaction at age 44 and 45 in Wave 1 and Wave 2, respectively, and the lowest happiness at age of 52 in 2007–2008, after which SWB started to increase again. This contrasts with the finding that in transition countries, SWB decreases monotonically as people get older (Guriev & Zhuravskaya, 2009), possibly due to the fact that in the period of interest in this thesis, the government in power adopted populist policies, focusing mainly on retired and older people.[28] This may have created an image of economic stability and improved lives in older people's perceptions. However, findings regarding life satisfaction are consistent with the literature on developed economies (Graham &

[27]This is different to what the descriptive statistics earlier showed, and it can result from the inclusion of some controls in the models, such as age. Nevertheless, the results from OLS are consistent with previous studies (Lee et al., 1991, Coombs, 1991, Diener et al., 2000, Stack & Eshleman, 1998).

[28] These included: gradual increase in the level of pensions, discounted ticket prices for public transport, free excursions and use of baths in Macedonia etc.

Pozuelo, 2017). The happiness results are in line with findings by Sanfey and Teksoz (2007) that in transition countries, the turning point is in the early 50s.

Table 4.2 OLS Estimates for SWB, Waves 1 and 2

	Wave 1		**Wave 2**	
	Life Satisfaction	**Happiness**	**Life Satisfaction**	**Happiness**
Female	0.098	0.346**	0.315**	0.311***
	(0.157)	(0.147)	(0.131)	(0.117)
Age	-0.073**	-0.077***	-0.085***	-0.024
	(0.032)	(0.028)	(0.031)	(0.029)
$Age^2/100$	0.082**	0.074**	0.094***	0.018
	(0.032)	(0.029)	(0.032)	(0.031)
Divorced	-0.072	-1.364***	-0.631	-0.978**
	(0.453)	(0.368)	(0.538)	(0.397)
Widowed	-0.334	-0.832***	-1.040***	-0.952***
	(0.277)	(0.280)	(0.277)	(0.285)
Single	-0.098	-0.551**	-0.229	-0.440*
	(0.296)	(0.272)	(0.271)	(0.244)
Number of Children	-0.020	0.044	0.029	0.007
	(0.073)	(0.078)	(0.094)	(0.088)
Urban	-0.217	0.037	-0.177	0.137
	(0.139)	(0.137)	(0.130)	(0.115)
Secondary	0.332	0.662***	0.410	0.600*
	(0.224)	(0.206)	(0.363)	(0.338)
Tertiary	0.486	0.821***	0.550	0.482
	(0.320)	(0.300)	(0.381)	(0.351)
Short-term Unemployed	-0.236	-0.134	-0.746*	-0.316
	(0.406)	(0.336)	(0.411)	(0.352)
Long-term Unemployed	-1.086***	-0.637***	-0.809***	-0.548***
	(0.220)	(-0.214)	(0.223)	(0.186)
Retired	0.160	0.402	0.414	0.572**
	(0.279)	(0.245)	(0.279)	-0.273)
Homemaker	-0.021	-0.585**	0.006	-0.283
	(0.259)	(0.248)	(0.263)	(-0.238)
Student	0.776**	0.586*	0.128	0.166
	(0.360)	(0.326)	(0.259)	(0.223)
Other	-1.193	-1.426*	0.604	0.389
	(0.731)	(0.732)	(0.665)	(-0.573)
Good Health	-0.980***	-0.708***	-0.557***	-1.107***
	(0.188)	(0.178)	(0.160)	(0.145)
Fair Health	-1.386***	-1.523***	-1.758***	-2.274***
	(0.216)	(-0.209)	(0.203)	(-0.183)
Bad Health	-2.122***	-2.340***	-2.256***	-2.778***
	(0.303)	(0.290)	(0.309)	(0.312)
Very Bad Health	-2.737***	-3.571***	-3.194***	-3.822***
	(0.575)	(0.497)	(0.942)	(0.720)
Second Quartile Income	1.097***	0.863***	0.640***	0.629***
	(0.214)	(0.218)	(0.230)	(0.210)
Third Quartile Income	1.173***	0.691***	1.123***	0.756***
	(0.224)	(0.211)	(0.233)	(-0.212)
Fourth Quartile Income	1.866***	1.262***	1.284***	0.876***
	(0.242)	(0.233)	(0.235)	(0.216)
Income Not Reported	1.086***	0.442*	1.231***	0.878***
	(0.270)	(0.239)	(0.219)	(0.192)
Number of Observations	972	972	1001	1001
Adjusted R^2	0.260	0.285	0.238	0.321

Sources: EQLS 2007–2008 and EQLS 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

In sum, the effect of the main variables of interest—income, health and long-term unemployment—are largely consistent across the years and the two measures of SWB. The results concerning education and the rest of the categories from employment activity have some modestly different effects in regard to their significance for one measure only. Likewise, the influence of the conversion factors is similar across categories, time and measures used, with some exceptions (i.e. gender, age, and marital status).

In addition to the results from the regressions that show whether an individual dummy influences SWB, the Wald test is performed to check the joint significance of the variables (Wald & Wolfowitz, 1944). Taken as they have been grouped in section 4.4.1, in most cases as the conversion factors, perceived and objective capabilities had joint explanatory power in the models estimated. However, the conversion factors did not appear significant for the model of life satisfaction in 2007–2008 (Table A4.3), possibly because from the group of conversion factors, only age was statistically significant in 2007–2008.

4.5.2. Ordered Probit Models

Tables 4.3–4.6 present the results from the ordered probit models. Each table displays the results from one year and one measure of SWB. Each column shows the results for a different level of the dependent variable. The estimates are reported as average marginal effects. They are computed first for each observation, then the average of these effects is calculated using the Stata command -margins-. Multiplying the marginal effect by 100 gives the percentage points for the respective probability of reporting low, medium or high levels of SWB. The interpretation of the marginal effects is expressed as the difference in the predicted probability for the respondents in one category, of being in one of the three SWB groups, relative to the omitted or the reference category. Next to the marginal effect, the star is used to indicate the

statistical significance, as the minimum level at which the null hypothesis that a particular variable does not influence the SWB can be rejected (the significance levels are the same as in OLS). The number of observations, as well as pseudo R^2, are provided. Pseudo R^2 is the proportion of the total variability of the dependent variable that is accounted for by the model. A higher value in this statistic indicates a better fit.

The findings from the ordered probit models are almost the same as the ones from the OLS models. The only difference is that while OLS revealed that divorced people were less happy in Wave 2, no statistically significant result was revealed by ordered probit models. As for the rest of the results, the substantive findings and conclusions still hold. The most prominent SWB differences were between the groups for the self-reported health variable. For example, those who reported very bad health are 56% and 72% less likely to rate their happiness as high as those who said they have very good health in Waves 1 and 2, respectively. Income also had a strong effect. People in the highest income quartile had 25% less probability of reporting low life satisfaction in 2007–2008, compared to the first income quartile.

The results further suggest that life satisfaction in Wave 1 correlated with age, long-term unemployment, health and income. However, the magnitude of these effects varied, and the medium group was less affected. Another observation is that being a student decreased (increased) the probability of reporting the low (high) level of life satisfaction, while no effect of being a student was found at the medium level (Table 4.3).

Happiness in Wave 1 positively correlated with being a female, educated, student, with higher income and having better health. Being divorced, single or widowed (relative to being married) and being long-term unemployed (compared to the employed) had a negative effect on happiness in 2007–2008 (Table 4.4).

Table 4.3 Ordered Probit Estimates for Life Satisfaction, Wave 1

	Life Satisfaction		
	Low	**Medium**	**High**
Female	-0.017	0.003	0.016
	(0.023)	(0.043)	(0.021)
Age	0.013***	-0.002*	-0.012***
	(0.004)	(0.001)	(0.004)
$Age^2/100$	-0.014***	0.003*	0.013***
	(0.005)	(0.001)	(0.004)
Divorced	-0.005	0.001	0.005
	(0.058)	(0.008)	(0.053)
Widowed	0.044	-0.013	-0.041
	(0.039)	(0.016)	(0.036)
Single	0.026	-0.006	-0.024
	(0.042)	(0.012)	(0.038)
Number of Children	0.001	-0.001	-0.001
	(0.011)	(0.002)	(0.010)
Urban	0.033	-0.006	-0.030
	(0.021)	(0.004)	(0.019)
Secondary	-0.050	0.013	0.046
	(0.033)	(0.012)	(0.030)
Tertiary	-0.070	-0.002	0.065
	(0.049)	(0.012)	(0.045)
Short-term Unemployed	0.028	-0.007	-0.026
	(0.053)	(0.019)	(0.048)
Long-term Unemployed	0.135***	-0.063**	-0.124***
	(0.030)	(0.024)	(0.029)
Retired	-0.013	0.002	0.012
	(0.040)	(0.005)	(0.037)
Homemaker	-0.001	0.001	0.001
	(0.038)	(0.007)	(0.035)
Student	-0.125**	-0.026	0.115**
	(0.054)	(0.032)	(0.049)
Other	0.126	-0.074	-0.116
	(0.156)	(0.149)	(0.144)
Good Health	0.113***	-0.035**	-0.103***
	(0.027)	(0.014)	(0.025)
Fair Health	0.159***	-0.061**	-0.146***
	(0.031)	(0.020)	(0.028)
Bad Health	0.251***	-0.190***	-0.230***
	(0.043)	(0.052)	(0.040)
Very Bad Health	0.325***	-0.307**	-0.298***
	(0.068)	(0.089)	(0.064)
Second Quartile Income	-0.170***	-0.025	0.156***
	(0.030)	(0.018)	(0.029)
Third Quartile Income	-0.193***	-0.037*	0.177***
	(0.031)	(0.021)	(0.030)
Fourth Quartile Income	-0.256***	-0.078**	0.235***
	(0.033)	(0.029)	(0.031)
Income Not Reported	-0.137***	-0.026	0.126***
	(0.037)	(0.023)	(0.035)
Number of Observations		972	
Pseudo R^2		0.136	

Source: EQLS 2007–2008.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Delta-method standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4.4 Ordered Probit Estimates for Happiness, Wave 1

	Happiness		
	Low	**Medium**	**High**
Female	-0.035**	-0.026**	0.061**
	(0.015)	(0.011)	(0.026)
Age	0.006**	0.005**	-0.011**
	(0.003)	(0.002)	(0.005)
$Age^2/100$	-0.007**	-0.005**	0.012**
	(0.003)	(0.002)	(0.005)
Divorced	0.129***	0.098***	-0.227***
	(0.039)	(0.031)	(0.067)
Widowed	0.076***	0.058***	-0.133***
	(0.026)	(0.020)	(0.045)
Single	0.049*	0.037*	-0.087*
	(0.028)	(0.021)	(0.048)
Number of Children	-0.002	-0.001	0.003
	(0.007)	(0.006)	(0.013)
Urban	-0.006	-0.004	0.010
	(0.014)	(0.010)	(0.024)
Secondary	-0.062***	-0.047***	0.110***
	(0.022)	(0.017)	(0.038)
Tertiary	-0.053*	-0.041	0.094*
	(0.032)	(0.025)	(0.057)
Short-term Unemployed	-0.003	-0.002	0.006
	(0.034)	(0.026)	(0.061)
Long-term Unemployed	0.045**	0.034**	-0.078**
	(0.020)	(0.015)	(0.035)
Retired	-0.018	-0.013	0.031
	(0.026)	(0.020)	(0.046)
Homemaker	0.062**	0.047**	-0.110**
	(0.025)	(0.019)	(0.044)
Student	-0.064*	-0.049*	0.113*
	(0.036)	(0.027)	(0.063)
Other	0.167	0.127	-0.294
	(0.111)	(0.087)	(0.197)
Good Health	0.067***	0.051***	-0.117***
	(0.019)	(0.014)	(0.031)
Fair Health	0.138***	0.105***	-0.243***
	(0.022)	(0.017)	(0.034)
Bad Health	0.220***	0.167***	-0.386***
	(0.030)	(0.026)	(0.049)
Very Bad Health	0.320***	0.243***	-0.563***
	(0.045)	(0.044)	(0.080)
Second Quartile Income	-0.085***	-0.065***	0.150***
	(0.020)	(0.016)	(0.035)
Third Quartile Income	-0.076***	-0.058***	0.134***
	(0.021)	(0.017)	(0.036)
Fourth Quartile Income	-0.131***	-0.099***	0.230***
	(0.023)	(0.018)	(0.038)
Income Not Reported	-0.053**	-0.040**	0.093**
	(0.025)	(0.019)	(0.043)
Number of Observations		972	
Pseudo R^2		0.157	

Source: EQLS 2007–2008.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Delta-method standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4.5 Ordered Probit Estimates for Life Satisfaction, Wave 2

	Life Satisfaction		
	Low	**Medium**	**High**
Female	-0.034***	-0.052***	0.086***
	(0.011)	(0.017)	(0.028)
Age	0.005**	0.008**	-0.013**
	(0.002)	(0.004)	(0.006)
$Age^2/100$	-0.006**	-0.009**	0.014**
	(0.003)	(0.004)	(0.006)
Divorced	0.038	0.059	-0.098
	(0.032)	(0.049)	(0.081)
Widowed	0.068***	0.106***	-0.174***
	(0.020)	(0.031)	(0.050)
Single	0.012	0.018	-0.029
	(0.021)	(0.032)	(0.053)
Number of Children	-0.005	-0.007	0.011
	(0.007)	(0.010)	(0.017)
Urban	0.007	0.012	-0.019
	(0.011)	(0.016)	(0.027)
Secondary	-0.009	-0.014	0.023
	(0.026)	(0.040)	(0.066)
Tertiary	-0.017	-0.027	0.044
	(0.028)	(0.044)	(0.072)
Short-term Unemployed	0.039	0.060	-0.099
	(0.034)	(0.053)	(0.086)
Long-term Unemployed	0.055***	0.085***	-0.141***
	(0.017)	(0.027)	(0.043)
Retired	-0.038*	-0.059*	0.098*
	(0.023)	(0.035)	(0.058)
Homemaker	0.018	0.028	-0.047
	(0.022)	(0.033)	(0.055)
Student	-0.023	-0.036	0.059
	(0.024)	(0.037)	(0.06)
Other	-0.035	-0.054	0.089
	(0.046)	(0.071)	(0.116)
Good Health	0.039***	0.060***	-0.099***
	(0.014)	(0.021)	(0.034)
Fair Health	0.121***	0.188***	-0.309***
	(0.018)	(0.025)	(0.039)
Bad Health	0.147***	0.229***	-0.376***
	(0.027)	(0.040)	(0.063)
Very Bad Health	0.207***	0.321***	-0.528***
	(0.057)	(0.089)	(0.142)
Second Quartile Income	-0.037**	-0.057**	0.094**
	(0.017)	(0.027)	(0.044)
Third Quartile Income	-0.075***	-0.116***	0.190***
	(0.019)	(0.029)	(0.047)
Fourth Quartile Income	-0.083***	-0.128***	0.211***
	(0.020)	(0.030)	(0.048)
Income Not Reported	-0.082***	-0.127***	0.209***
	(0.017)	(0.025)	(0.040)
Number of Observations		1001	
Pseudo R^2		0.117	

Source: EQLS 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Delta-method standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Moving now to 2011–2012, the effect of gender, age, long-term unemployment, health and income appeared as statistically significant correlates of both evaluative and hedonic SWB. Unlike in Wave 1, being widowed or retired gained significance, decreasing or increasing (respectively) the probability of someone reporting high life satisfaction (Table 4.5).

In the same wave, happiness was negatively affected by being widowed or single, relative to being married, and positively affected by being retired compared to the employed (Table 4.6).

Table 4.6 Ordered Probit Estimates for Happiness, Wave 2

	Happiness		
	Low	**Medium**	**High**
Female	-0.014*	-0.033*	0.047*
	(0.008)	(0.019)	(0.027)
Age	0.001	0.003	-0.004
	(0.002)	(0.004)	(0.006)
$Age^2/100$	-0.001	-0.002	0.003
	(0.002)	(0.004)	(0.006)
Divorced	0.026	0.065	-0.090
	(0.023)	(0.057)	(0.079)
Widowed	0.046***	0.113***	-0.158***
	(0.015)	(0.035)	(0.048)
Single	0.042***	0.105***	-0.147***
	(0.016)	(0.037)	(0.052)
Number of Children	0.001	0.002	-0.003
	(0.005)	(0.012)	(0.016)
Urban	-0.012	-0.031	0.043
	(0.008)	(0.019)	(0.026)
Secondary	-0.033*	-0.081*	0.114*
	(0.018)	(0.046)	(0.064)
Tertiary	-0.031	-0.076	0.107
	(0.020)	(0.050)	(0.069)
Short-term Unemployed	-0.018	-0.045	0.062
	(0.026)	(0.064)	(0.089)
Long-term Unemployed	0.021*	0.052*	-0.073*
	(0.012)	(0.030)	(0.042)
Retired	-0.033**	-0.082**	0.115**
	(0.016)	(0.040)	(0.056)
Homemaker	0.009	0.023	-0.032
	(0.016)	(0.039)	(0.054)
Student	-0.027	-0.067	0.094
	(0.017)	(0.043)	(0.060)
Other	-0.050	-0.124	0.175
	(0.033)	(0.082)	(0.114)
Good Health	0.071***	0.175***	-0.246***
	(0.012)	(0.022)	(0.031)
Fair Health	0.133***	0.329***	-0.462***
	(0.017)	(0.026)	(0.034)
Bad Health	0.138***	0.343***	-0.481***
	(0.022)	(0.043)	(0.059)
Very Bad Health	0.207***	0.514***	-0.721***
	(0.043)	(0.103)	(0.139)
Second Quartile Income	-0.031**	-0.076**	0.107**
	(0.012)	(0.030)	(0.042)
Third Quartile Income	-0.049***	-0.121***	0.170***
	(0.014)	(0.033)	(0.046)
Fourth Quartile Income	-0.059***	-0.147***	0.206***
	(0.015)	(0.034)	(0.047)
Income Not Reported	-0.054***	-0.134***	0.189***
	(0.012)	(0.028)	(0.039)
Number of Observations		1001	
Pseudo R^2		0.180	

Source: EQLS 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Delta-method standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

4.5.3. Quantile Regressions

For the quantile models, the Binder and Coad's (2011b) approach was followed in order to estimate more subtle influence of the factors that may not be identified by estimates produced focusing on mean values. Given previous researchers' findings (Binder & Coad, 2011b, 2015, Graham & Nikolova, 2015) that respondents put different weights on the same determinant, the analyses were expected to reveal different associations between a set of socio-economic determinants and SWB, depending on the positioning of the respondents on the SWB scale. While Binder and Coad (2011b) have five quantiles, the quantile regressions here enable exploration of the heterogeneous effects at three quantiles, i.e. the 0.25, 0.50 (median) and 0.75 quantiles in the conditional SWB distribution.[29] The results are presented in Tables 4.7–4.10. An initial observation is that these results bear out many of the relationships discussed in sections 4.5.1 and 4.5.2. Yet, quantile regressions provide a more comprehensive analysis, as they show that the effects are not consistent at all parts of the SWB distribution.

Regarding the main variables of interest, the results for life satisfaction in Wave 1 were mixed. While health appeared as a statistically significant determinant of SWB at all quantiles, there was no clear pattern of diminishing or increasing effect with the movement on the life-satisfaction distribution. In some cases, people at the median of the SWB distribution were affected less by health however, sometimes the effect was more, compared to people at the upper quantile of the SWB distribution. The effect of income on SWB was stronger for the respondents at the median, except for the 75th quantile where it rose. The rest of the estimated coefficients for income, as well as for long-term unemployed, seemed to follow an inverted U-shape, while the relationship of being a student and life satisfaction followed a U-shape across the quantiles. Specifically, the effect of being a student on life satisfaction was high for the 25th

[29]This is because the regression for the extreme quantiles (0.10 and 0.90) did not produce any meaningful results, and for some groups the p-values could not be calculated, due to fewer observations at the extremes.

quantile, decreased at the median, and then increased again for Q75. The effect of the conversion factors on life satisfaction did not show a clear pattern (Table 4.7).

Table 4.7 Quantile Estimates for Life Satisfaction, Wave 1

	Life Satisfaction		
	Q25	**Q50**	**Q75**
Female	0.380	-0.020	0.012
	(0.242)	(0.186)	(0.248)
Age	-0.033	-0.085**	-0.096
	(0.048)	(0.042)	(0.059)
$Age^2/100$	0.040	0.082*	0.105*
	(0.050)	(0.045)	(0.057)
Divorced	-0.923	0.064	0.092
	(0.941)	(0.583)	(0.514)
Widowed	-0.550	-0.107	0.074
	(0.412)	(0.316)	(0.500)
Single	0.063	-0.204	-0.742
	(0.383)	(0.300)	(0.480)
Number of Children	0.047	-0.009	-0.090
	(0.119)	(0.081)	(0.105)
Urban	-0.484**	-0.247*	-0.087
	(0.224)	(0.136)	(0.217)
Secondary	0.797**	0.240	0.190
	(0.350)	(0.280)	(0.337)
Tertiary	1.559***	0.441	-0.040
	(0.476)	(0.444)	(0.575)
Short-term Unemployed	-0.875	-0.213	0.156
	(0.697)	(0.453)	(0.702)
Long-term Unemployed	-1.101***	-1.324***	-0.972**
	(0.321)	(0.290)	(0.378)
Retired	0.687	0.264	0.038
	(0.425)	(0.328)	(0.385)
Homemaker	0.029	0.090	0.039
	(0.418)	(0.287)	(0.373)
Student	1.356**	0.698*	1.094**
	(0.587)	(0.421)	(0.524)
Other	-0.580	-0.860	-1.088
	(1.095)	(1.185)	(0.992)
Good Health	-0.971***	-1.085***	-0.766**
	(0.279)	(0.247)	(0.313)
Fair Health	-1.338***	-1.604***	-1.600***
	(0.326)	(0.276)	(0.404)
Bad Health	-2.254***	-1.958***	-2.748***
	(0.492)	(0.339)	(0.513)
Very Bad Health	-3.286***	-2.907***	-3.127***
	(0.524)	(0.757)	(1.102)
Second Quartile Income	1.105***	1.375***	1.014***
	(0.316)	(0.316)	(0.277)
Third Quartile Income	1.096***	1.468***	1.179***
	(0.319)	(0.290)	(0.353)
Fourth Quartile Income	1.644***	1.942***	2.104***
	(0.386)	(0.321)	(0.436)
Income Not Reported	0.759**	1.497***	1.108***
	(0.332)	(0.300)	(0.400)
Number of Observations	972	972	972
Pseudo R^2	0.208	0.150	0.154

Source: EQLS 2007–2008.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Bootstrapped standard errors with 100 replications in parenthesis. Q25 corresponds to the 25th quantile, Q50 is the median and Q75 refers to the 75th quantile. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Quantile regressions on the hedonic component of SWB in 2007–2008 produced the following results. The least happy respondents valued health the least (for example, the

coefficient for good health was –0.617 at Q25 compared to –1.036 at Q75). In contrast, income showed a decreasing effect over the quantiles in both magnitude and significance.

The importance of secondary education was highest among the happiest respondents. However, the effect of tertiary education did not show a clear pattern and affected people only at the extremes (Q25 and Q75), not at the median. A less clear pattern was also evident regarding the effect of the rest of the variables. Statistically significant effects of being widowed or single, long-term unemployed, homemaker, student, other, or having secondary or tertiary education existed only at some quantiles of the happiness distribution. For example, gender was not statistically significant for the happiest respondents. Age and divorced were important only for the least happy, while being single was statistically significant at the median and at the 75th quantile. The U-pattern existed at the 25th quantile only. The results show that females were happier than males at Q25 and Q50, but with increased magnitude at the median. This association was significant for the 25th and 50th quantiles in the happiness distribution, while it could not be found for the happiest respondents (Table 4.8).

Table 4.8 Quantile Estimates for Happiness, Wave 1

	Happiness		
	Q25	**Q50**	**Q75**
Female	0.368*	0.325*	0.228
	(0.214)	(0.193)	(0.242)
Age	-0.085**	-0.059	-0.021
	(0.042)	(0.040)	(0.038)
$Age^2/100$	0.081*	0.051	0.020
	(0.043)	(0.041)	(0.039)
Divorced	-1.255*	-0.737**	-1.694***
	(0.752)	(0.350)	(0.400)
Widowed	-0.927**	-0.364	-0.405
	(0.395)	(0.447)	(0.390)
Single	-0.338	-0.699**	-0.701*
	(0.416)	(0.325)	(0.409)
Number of Children	-0.048	0.023	0.081
	(0.136)	(0.105)	(0.090)
Urban	0.187	0.047	-0.066
	(0.209)	(0.176)	(0.141)
Secondary	0.266	0.661**	1.080***
	(0.306)	(0.290)	(0.331)
Tertiary	0.665*	0.578	1.148**
	(0.399)	(0.411)	(0.483)
Short-term Unemployed	-0.477	-0.028	-0.103
	(0.463)	(0.613)	(0.480)
Long-term Unemployed	-0.729**	-0.496	-0.919***
	(0.323)	(0.305)	(0.316)
Retired	0.389	0.418	0.261
	(0.284)	(0.405)	(0.319)
Homemaker	-0.347	-0.371	-0.676*
	(0.354)	(0.345)	(0.358)
Student	0.838*	0.845**	0.718
	(0.507)	(0.354)	(0.488)
Other	-1.443**	-2.554**	-1.850
	(0.653)	(1.173)	(1.336)
Good Health	-0.617**	-0.898***	-1.036***
	(0.312)	(0.201)	(0.206)
Fair Health	-1.287***	-1.973***	-1.887***
	(0.298)	(0.287)	(0.291)
Bad Health	-2.096***	-2.386***	-2.742***
	(0.421)	(0.430)	(0.416)
Very Bad Health	-3.956***	-4.525***	-4.397***
	(0.568)	(0.589)	(0.905)
Second Quartile Income	0.933***	0.941***	0.649*
	(0.342)	(0.285)	(0.339)
Third Quartile Income	0.775**	0.483	0.264
	(0.307)	(0.304)	(0.290)
Fourth Quartile Income	1.220***	1.554***	1.011***
	(0.349)	(0.351)	(0.321)
Income Not Reported	0.516	0.380	0.091
	(0.369)	(0.302)	(0.337)
Number of Observations	972	972	972
Pseudo R^2	0.163	0.191	0.163

Source: EQLS 2007–2008.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Bootstrapped standard errors with 100 replications in parenthesis. Q25 corresponds to the 25th quantile, Q50 is the median and Q75 refers to the 75th quantile. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

For life satisfaction in Wave 2, this study found that the coefficients' estimates were much more uniform than those in Wave 1. Income had a lesser effect on the people at higher points of the distribution. When it comes to health, the respondents with higher life satisfaction were affected to a larger extent by health (the exception is the upper quantile, where very bad health

is statistically insignificant). The negative effect of divorce and long-term unemployment decreased in moving from Q25 to Q50 and Q75. The relationship with age, which had a U-shape, was evident only for people at the 75th quantile. Being female mattered only for the least satisfied respondents in 2011–2012 (Table 4.9).

Table 4.9 Quantile Estimates for Life Satisfaction, Wave 2

	Life Satisfaction		
	Q25	**Q50**	**Q75**
Female	0.352*	0.269	0.249
	(0.205)	(0.189)	(0.157)
Age	-0.053	-0.072	-0.082**
	(0.043)	(0.045)	(0.034)
$Age^2/100$	0.054	0.082	0.100***
	(0.044)	(0.051)	(0.036)
Divorced	-1.333	-0.634	-0.071
	(0.872)	(0.877)	(0.748)
Widowed	-1.093***	-0.919**	-0.839**
	(0.377)	(0.435)	(0.335)
Single	0.065	-0.412	-0.325
	(0.421)	(0.346)	(0.284)
Number of Children	0.072	0.023	0.003
	(0.111)	(0.137)	(0.111)
Urban	-0.114	-0.126	-0.519***
	(0.186)	(0.194)	(0.185)
Secondary	0.536	0.514	0.244
	(0.678)	(0.529)	(0.382)
Tertiary	0.823	0.639	0.208
	(0.709)	(0.556)	(0.417)
Short-term Unemployed	-1.053	-0.685	-0.678
	(0.655)	(0.663)	(0.693)
Long-term Unemployed	-1.276***	-0.685**	-0.631**
	(0.309)	(0.316)	(0.248)
Retired	0.462	0.503	0.464
	(0.392)	(0.354)	(0.356)
Homemaker	-0.283	-0.313	0.438
	(0.316)	(0.487)	(0.332)
Student	0.021	0.345	0.295
	(0.417)	(0.316)	(0.348)
Other	0.262	0.732	1.757
	(1.277)	(0.739)	(1.176)
Good Health	-0.575**	-0.799***	-0.845***
	(0.243)	(0.228)	(0.175)
Fair Health	-1.753***	-2.144***	-1.947***
	(0.280)	(0.276)	(0.287)
Bad Health	-2.159***	-2.623***	-2.867***
	(0.366)	(0.451)	(0.441)
Very Bad Health	-3.424***	-3.555**	-2.847
	(1.200)	(1.703)	(1.877)
Second Quartile Income	0.768**	0.872***	0.366
	(0.317)	(0.332)	(0.271)
Third Quartile Income	1.212***	0.976***	0.791**
	(0.323)	(0.288)	(0.334)
Fourth Quartile Income	1.437***	1.297***	1.041***
	(0.334)	(0.328)	(0.277)
Income Not Reported	1.570***	1.097***	1.096***
	(0.279)	(0.259)	(0.293)
Number of Observations	1001	1001	1001
Pseudo R^2	0.151	0.144	0.135

Source: EQLS 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Bootstrapped standard errors with 100 replications in parenthesis. Q25 corresponds to the 25th quantile, Q50 is the median and Q75 refers to the 75th quantile. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Happiness in 2011–2012 was negatively affected by the following variables: being divorced, widowed or long-term unemployed. The magnitude of the negative coefficient estimates decreased from the 25th quantile to the 50th quantile and then became statistically insignificant for the happiest respondents. The coefficient estimates for worsening health increased in magnitude across the happiness quantiles. The impact of income decreased in size for the last two income quartiles. For the second and third quartiles of income, no significant impact was found. Being female, divorced and widowed was important for happiness for the respondents at Q50 only (Table 4.10).

So far, the discussion has focused on the results from the quantile regressions concerning how the effect of the statistically significant variables (found also with OLS) can vary in terms of significance, magnitude or strength of the association across the SWB distribution. Apart from these results, some new results were not obtained with OLS. For life satisfaction, these were the education dummies that had a positive impact on people at the lowest quantile of the life-satisfaction distribution in 2007–2008 (Table 4.7). Tertiary education became statistically significant and had a positive effect on the least happy people in 2011–2012 (Table 4.10). Using quantile regressions showed that being a student increased happiness at significant levels for respondents at the upper quantile in Wave 2 (Table 4.10). Interestingly, though, the single and retired lost their significance and had no effect at any quantile of the happiness distribution in 2011–2012 (Table 4.10). In Wave 1, urban dwellers at the 25th and 50th quantiles were less satisfied with their lives, compared to rural in 2007–2008 (Table 4.7). However, in Wave 2, living in an urban area had a diminishing effect only on people at the 75th quantile (Table 4.9). The findings regarding the effect of respondents' place of residence on their SWB are in line with findings from other countries. For example, scholars found that urban areas showed disadvantages over rural residential areas in developed economies (Easterlin et al., 2011), in South Africa (Powdthavee, 2005), as well as in China (Knight & Gunatilaka, 2010), because

people in large cities are exposed to long commutes, stressful working culture and pollution (Rodríguez-Pose & Maslauskaite, 2011).

Table 4.10 Quantile Estimates for Happiness, Wave 2

	Happiness		
	Q25	**Q50**	**Q75**
Female	0.147	0.531**	0.313
	(0.173)	(0.217)	(0.190)
Age	-0.030	-0.018	0.018
	(0.037)	(0.032)	(0.033)
$Age^2/100$	0.023	0.024	-0.017
	(0.040)	(0.031)	(0.036)
Divorced	-1.128**	-1.060**	-0.854
	(0.565)	(0.496)	(0.712)
Widowed	-0.931**	-0.970***	-0.646
	(0.424)	(0.319)	(0.494)
Single	-0.541	-0.307	-0.252
	(0.345)	(0.309)	(0.309)
Number of Children	0.021	-0.035	0.072
	(0.098)	(0.111)	(0.099)
Urban	0.268	-0.088	0.022
	(0.186)	(0.147)	(0.119)
Secondary	1.257**	0.648	1.027*
	(0.607)	(0.402)	(0.582)
Tertiary	1.207*	0.542	0.813
	(0.636)	(0.419)	(0.617)
Short-term Unemployed	-0.379	0.069	-0.290
	(0.555)	(0.366)	(0.500)
Long-term Unemployed	-0.729**	-0.591*	-0.456
	(0.314)	(0.339)	(0.312)
Retired	0.329	0.549	0.563
	(0.390)	(0.384)	(0.380)
Homemaker	-0.297	-0.374	-0.007
	(0.337)	(0.441)	(0.274)
Student	0.211	0.402	0.522*
	(0.397)	(0.260)	(0.291)
Other	-0.319	0.591	1.087
	(0.903)	(1.143)	(0.735)
Good Health	-1.017***	-1.180***	-1.327***
	(0.196)	(0.190)	(0.265)
Fair Health	-2.631***	-2.554***	-2.523***
	(0.239)	(0.298)	(0.381)
Bad Health	-2.838***	-3.291***	-3.389***
	(0.283)	(0.384)	(0.579)
Very Bad Health	-3.420***	-4.726***	-5.251***
	(0.819)	(1.235)	(1.859)
Second Quartile Income	0.698*	0.450	0.445
	(0.360)	(0.307)	(0.301)
Third Quartile Income	0.969**	0.482	0.492
	(0.381)	(0.317)	(0.316)
Fourth Quartile Income	1.168***	0.779**	0.700***
	(0.350)	(0.323)	(0.265)
Income Not Reported	1.131***	0.713**	0.677***
	(0.328)	(0.278)	(0.249)
Number of Observations	1001	1001	1001
Pseudo R^2	0.249	0.220	0.170

Source: EQLS 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Bootstrapped standard errors with 100 replications in parenthesis. Q25 corresponds to the 25th quantile, Q50 is the median and Q75 refers to the 75th quantile. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

In sum, there are several interesting patterns in the data. For instance, with respect to health, health is increasingly important with each increasing quantile of life satisfaction (Wave 2) and happiness (Waves 1 and 2). The effect of income on SWB in Wave 2 decreased in magnitude or even became insignificant at upper quantiles. No conclusive findings can be claimed regarding the effect of education and its importance at particular quantiles of the SWB distribution. The effect of long-term unemployment in 2011–2012 became weaker with movements towards the higher quantiles in both life satisfaction and happiness. It was not significant for Q75. Largely, the capabilities in Wave 1 did not show a uniform pattern.

For a simpler presentation of the decreasing or increasing importance of the variable on SWB, some of these nonmonotonic relationships of the capabilities and SWB are plotted in Figure A4.1. The grey-shaded area represents the 95% confidence interval of the estimated bootstrapped regressions coefficients (with 100 replications), at the three different points on the SWB distribution. The black horizontal dashed lines refer to the estimated OLS coefficients, while the horizontal small dots depict the confidence interval. Where an estimated quantile regressions coefficient (the green line) is observed outside of the OLS confidence interval, it means that the relationship between the particular variable and SWB is not constant over the quantiles of the SWB distribution.

The first diagram (upper left) shows that the effect of tertiary education on life satisfaction in 2007–2008 declined across the quantiles of the life satisfaction distribution. In the upper part (75^{th} quantile), the coefficient was close to zero. The upper right diagram also shows a declining, nonmonotonic association of happiness and the third income quartile in Wave 1, suggesting that the happiest people were happy regardless of their income. Turning now to Wave 2, the lower-left diagram indicates that in moving to higher quantiles, the negative effect of long-term unemployment decreased. Being long-term unemployed was more strongly associated with life satisfaction at lower quantiles, where the negative coefficient was nearly twice as high as the

one at the upper quantile. In the last diagram, an increasingly negative effect of very bad health on happiness was observed. The negative effect of very bad health on happiness in 2011–2012 increased with a difference of about two points between the extremes.

For the purpose of brevity, only the coefficients for one dummy variable (capability) for each measure of SWB (life satisfaction and happiness) each wave is presented. However, heterogeneous effects (the quantile line lies outside of the OLS confidence interval) were found to be the case for bad health on life satisfaction, all the health dummies and secondary education in Wave 1. In Wave 2 the same was observed for the effect of good, fair and bad health on life satisfaction and fair and bad health on happiness.

4.6. Discussion

The initial results have been obtained with statistical techniques focusing on the mean of the SWB. Revealing summary points estimates, based on the average effects, provided a useful first picture of the effect of determinants of SWB, identifying health (perceived capability), income and long-term unemployment (objective capabilities) as the strongest determinants of both measures of SWB in Macedonia, across the two waves, most of which were statistically significant at the 1% significance level.

Individuals' SWB in Macedonia grew as household income increased. This is in accordance with the capability approach, which suggests that a higher income provides material comfort (Aristotle, 340 BC) and enhances other capabilities of people (such as investment in education and health). The importance of health is seen in the fact that it makes people able to benefit from other opportunities (Nussbaum, 2011b) as it determines what people do in other areas of their lives. Lack of good health reduces people's ability to carry out daily activities, to have a particular job or to socialise (Easterlin, 2005). Long-term unemployment undoubtedly has an adverse effect on people's lives, not only through the loss of income but also by leading

to additional psychological costs for the unemployed, the so-called scarring effect, as well as the environment and people around them. The loss of income that occurs when someone is unemployed affects the overall life of the individual as well as their future, including planning important life events such as marriage, establishing a family or buying a house (Mortimer, 2012). Education was mainly found to impact only happiness. Education is seen as one of the essentials for improving the quality of life as it allows people to take advantage of activities that generate happiness (Scitovsky, 1976). Education also increases choices, in terms of jobs and earning high salaries.

The comparison of the same variable across different measures suggests that there are slightly different effects, depending on which SWB measure is used. This is in line with some scholars who claim that evaluative and hedonic metrics of SWB have slightly different correlates (Graham & Nikolova, 2015). Health has a larger effect on happiness, while long-term unemployment and income have stronger effects on life satisfaction. Bearing in mind that hedonic SWB refers to experiences, it is understandable that bad health conditions prevent people from carrying out daily activities that interest them and discourages them from socialising (Easterlin, 2005). According to the analysis in this chapter, determinants of SWB in Macedonia also depend on the year under consideration. For example, the effect of age, gender, short-term unemployment, and status of being retired, a homemaker, a student, or other, were significant only in one wave.

When it comes to the method used in the analysis of this chapter, the findings from OLS and the ordered probit models suggest that the same capabilities (income, health, education and long-term unemployment) had a constant influence on SWB. Yet, the quantile regression offered a richer characterisation of the data and thus extended the initial knowledge that was obtained with OLS and ordered probit models. The exclusive focus on averages would have hidden important information for the entire SWB distribution. The usefulness of it can be seen

in the fact that some effects with those regressions were not only under- or over-estimated but also non-existent, as also noted by Cade and Noon (2003). Quantile regressions, for example, revealed new insights about the effect of education and residential area, which were not previously found with OLS and ordered probit models. This is because in standard OLS regressions, the strong association between high and low values may balance the effect at average estimates (Koenker & Hallock, 2001).

Employing quantile regressions revealed some heterogeneity in the associations, which were more consistent in Wave 2. Macedonians who scored higher on the SWB scale put less weight on actual capabilities; however, they value more perceived capabilities, compared to people at the bottom (especially in Wave 2). In this context, the coefficients of income, long-term unemployment, and education fell in magnitude and significance, or even became insignificant, in moves across the SWB distribution. These results regarding the objective capabilities were expected, as Graham and Nikolova (2015) and Binder and Coad (2011b, 2015) found them.

Individuals at upper SWB quantiles were more affected by health, in contrast to what other studies have found (Binder & Coad, 2011b, 2015, Graham & Nikolova, 2015). A possible explanation may be that people tend to report better health if they experience higher SWB. Hence, the results are due to a two-way relationship. Nevertheless, it is still important to know that health and SWB always go together.

The results from this chapter are also appealing, as they shed light on the SWB increase in Macedonia for each demographic group, surprisingly during the period of the global financial crisis. The question that arises, therefore, concerns the reasons for such a rise in SWB. A conclusive answer is beyond the scope of the present chapter, but a conjectural answer may be offered by the attempt to link this trend to broader matters, summarised as followings.

First, Macedonians have gone through severe economic uncertainties (i.e. poverty and unemployment) and political crises for a protracted period. They may have developed ways to cope with difficulties and the negative consequences of the global recession that occurred between the two waves (Soldi et al., 2014). A second explanation for the higher SWB the country experienced could be improvements in some of the macroeconomic indicators in 2011–2012 (see sections 3.7 and 3.8). Also, the increased SWB may have occurred as a psychological outcome of the pledged reforms for improvements in the development of the socio-economic environment (see Chapter 3).

On one hand, visa liberalisation (see section 3.2) increased freedom to travel and facilitated trips to Europe, perhaps increasing choices relevant to SWB. On the other hand, this may have further encouraged emigration and thus resulted in increased social transfers and constant remittances (on which Macedonians rely, crucial as they are for higher household consumption), which may have improved the financial situation of Macedonian families (Dietz, 2010). Moreover, positive SWB consequences, especially in less developed and poorer countries on people left behind by emigration, relate to the feeling that their family members achieved the realisation of their goals and have better lives abroad (Ivlevs et al., 2019). Moreover, less happy people have the tendency to leave the country to look for opportunities (Nikolova & Graham, 2015) and better (happier) lives abroad (Drinkwater & Blackaby, 2004). In this sense, those who remain could possibly have relatively higher levels of SWB. In a somewhat similar context, a salient observation is that Wave 2 had a larger number of respondents with higher income, better health and higher educational attainment (see Table A4.2), characteristics that correlate with higher SWB.

The positive SWB trends are encouraging, especially as they have happened for each demographic group. Yet, conclusions should be drawn with care, as the comparison reflects a

weak base in 2007–2008. Improvement in SWB is not guaranteed and further government efforts are crucial to ensure stability in SWB over a longer time span.

4.7. Conclusion and Policy Recommendations

This chapter sought to answer three different but linked questions: 'What specific socio-economic determinants are associated with SWB in Macedonia?'; 'What differences, if any, exist in the effect of socio-economic determinants across the two time periods (2007–2008 and 2011–2012) and the two measures of SWB (life satisfaction and happiness)?'; and 'How do the effects of the socio-economic determinants vary across different points along the distribution of SWB?' The results from the three types of regressions, OLS, ordered probit models and quantile regression models confirm that both evaluative and hedonic components of SWB were strongly related with perceived (health) and objective (income, employment activity and education) capabilities. Additionally, most of the conversion factors including marital status and age exert an influence on SWB in Macedonia.

These findings contribute new insights to the relatively limited work on SWB in transitional countries, particularly from the perspective of the linkages between two distinct measures of SWB and capabilities in the context of a small, transitional and under-researched country, by employing a less commonly used statistical technique, quantile regression.

While most of the empirical results are in accordance with findings from the SWB literature, the directions or the magnitude of the relationship confirmed that Macedonia does not necessarily fit the standard determinants of SWB found across other transition countries, as some of the findings were in line with those from developed countries, supporting the need for separate research on each specific context.

The analysis provides insights into the impact of SWB determinants on people's lives, which (the researcher hopes) will encourage policy debates in Macedonia. In line with Sen's

view, the role of the Macedonian government in ensuring happy lives should largely revolve around providing and expanding opportunities and choices to people who lack them, from which individuals can freely choose the ones that will bring them higher levels of SWB (Sen, 1980, 2005, 2008). Given that SWB in Macedonia was low among those with very bad health, the lowest income respondents, and the long-term unemployed, government efforts could aim at the following. In terms of income, boosting incomes by increasing the minimum wage or through a redistribution of income thus reducing taxes for lower income groups. Concerning health, making health services more affordable and easily accessible; encouraging health behaviours, such as adopting healthier dietary habits and being more physically active. In terms of education, it should be organised in a way that prepares students for entering the labour market by enriching them with skills and practices that meet employers' requirements. When it comes to the unemployed, the government may want to provide or facilitate training for the unemployed to enhance their skills and make them more competitive in the labour market, or support them in becoming self-employed.

The findings also suggest that some of the conversion factors considered here can affect SWB. As divorced or widowed people were the most likely to be unhappy and the least satisfied with their lives, government could provide some support to those people—for example, opportunities to socialise as a means of alleviating their lack of social interactions. Similarly, some of the other conversion factors, such as age and gender, are susceptible to policy interventions. Government could also include programmes that target mid-age people. The conversion factors are important to consider, because without them, some other relationships would have been under- or over-estimated. In a sense, the effect of the main capabilities may vary by age and gender, so policy makers may also consider them.

Turning now to the findings from the quantile regressions, from a policy perspective, it is informative to know what factors are valued by the least happy or individuals that are least

satisfied with their life. If the government gives priority to those people with the lowest SWB, then they should (for example) favour income and education to increase opportunities for those people. However, some variables appear to affect all people, regardless of their position on the SWB distribution. For example, unemployment seemed to have persistent effects in most cases. Therefore, policies aimed at combating unemployment will likely have a positive effect on everyone. Otherwise, for a normative reason, if policymakers choose to enhance all capabilities that matter on average, then the results reported from OLS can be used to increase SWB.

This analysis of SWB of the whole Macedonian population serves as an important starting point for the rest of the empirical chapters because it provides an overview of the general patterns in Macedonia while revealing important effects of employment activity. Further insights and a better-rounded picture of the employed and unemployed will be presented in the next chapter. Moreover, based on this chapter's findings of large SWB improvement in Macedonia, it seems worthwhile to further analyse in the next chapter the increase in life satisfaction and happiness. Finally, since the results from ordered probit were largely supported by the results from OLS, no large sensitivity of the obtained results to the choice of those estimation techniques; for simplicity, the analysis will be undertaken using OLS in the next two empirical chapters.

4.8. Appendixes

Table A4.1 Selection of the Variables Based on the Capability Approach

	Capability Approach		
	Description (number on the list)	**Proxy**	**Source**
Nussbaum's list	bodily health (2)	self-reported health	EQLS
	sense, imagination, and thought (4)	Education	EQLS
	control over one's environment (10b)	employment status	EQLS
		household income	EQLS
Sen's conversion factors	personal	Age	EQLS
		Gender	EQLS
	social	marital status	EQLS
		Children	EQLS
	environmental	residential area	EQLS

Sources: Author based on Sen (1985, 1992), Nussbaum (2000) and EQLS (2007–2008 and 2011–2012.).

Table A4.2 Summary Statistics

	Wave 1		Wave 2	
Variable	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Dependent variables				
Life Satisfaction (1=very dissatisfied, 10=very satisfied)	5.225	2.431	6.726	2.235
Happiness (1=very unhappy, 10=very happy)	6.118	2.325	7.181	2.115
Conversion factors				
Male (1=Yes)	0.477	0.499	0.486	0.500
Female (1=Yes)	0.522	0.499	0.513	0.500
Age	46.258	17.167	44.958	17.555
Age2/100	2434.312	1668	2329.114	1681.361
Married (1=Yes)	0.679	0.467	0.644	0.478
Divorced (1=Yes)	0.318	0.175	0.025	0.159
Widowed (1=Yes)	0.112	0.315	0.093	0.291
Single (1=Yes)	0.179	0.383	0.235	0.424
Number of Children	1.688	1.227	1.441	1.139
Rural (1=Yes)	0.500	0.500	0.490	0.500
Urban (1=Yes)	0.500	0.500	0.509	0.500
Perceived capabilities				
Very Good Health (1=Yes)	0.244	0.430	0.427	0.494
Good Health (1=Yes)	0.327	0.469	0.299	0.458
Fair Health (1=Yes)	0.300	0.458	0.208	0.406
Bad Health (1=Yes)	0.100	0.301	0.054	0.227
Very Bad Health (1=Yes)	0.026	0.161	0.008	0.094
Objective capabilities				
Primary (1=Yes)	0.156	0.363	0.050	0.220
Secondary (1=Yes)	0.752	0.432	0.666	0.471
Tertiary (1=Yes)	0.092	0.288	0.282	0.450
Employed (1=Yes)	0.354	0.478	0.426	0.494
Short-term Unemployed (1=Yes)	0.041	0.198	0.023	0.153
Long-term Unemployed (1=Yes)	0.179	0.383	0.131	0.338
Retired (1=Yes)	0.235	0.424	0.218	0.413
Homemaker (1=Yes)	0.120	0.325	0.080	0.272
Student (1=Yes)	0.063	0.244	0.104	0.306
Other (1=Yes)	0.005	0.071	0.012	0.113
First Quartile Income (1=Yes)	0.223	0.416	0.170	0.376
Second Quartile Income (1=Yes)	0.222	0.415	0.187	0.390
Third Quartile Income (1=Yes)	0.223	0.416	0.154	0.361
Fourth Quartile Income (1=Yes)	0.219	0.413	0.173	0.379
Income Not Reported (1=Yes)	0.112	0.315	0.312	0.463

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Mean value and standard deviation for each of the variables. Dummy variables take value 1 if the respondent belongs to the particular category and 0 otherwise.

Table A4.3 Multiple Hypothesis Testing: Joint Significance Tests

	Wald Test			
	Wave 1		**Wave 2**	
	Life Satisfaction	**Happiness**	**Life Satisfaction**	**Happiness**
Conversion factors	0.281	0.000	0.001	0.000
Perceived capabilities	0.000	0.000	0.000	0.000
Objective capabilities	0.000	0.000	0.000	0.000

Sources: EQLS 2007–2008 and 2011–2012.

Note: p-values reported. Tests whether the independent variables have simultaneously predictive power.

Table A4.4 Post-Estimation Tests Based on OLS

	Post-Estimation Tests			
	Wave 1		**Wave 2**	
	Life Satisfaction	**Happiness**	**Life Satisfaction**	**Happiness**
Ramsey Reset test	0.208	0.178	0.114	0.152
Link test	0.096	0.284	0.551	0.481
Breusch-Pegan / Cook-Weisberg test	0.125	0.080	0.000	0.000

Sources: EQLS 2007–2008 and 2011–2012.

Note: p-values reported. Tests relate to omitted variables, miss-specification and heteroscedasticity.

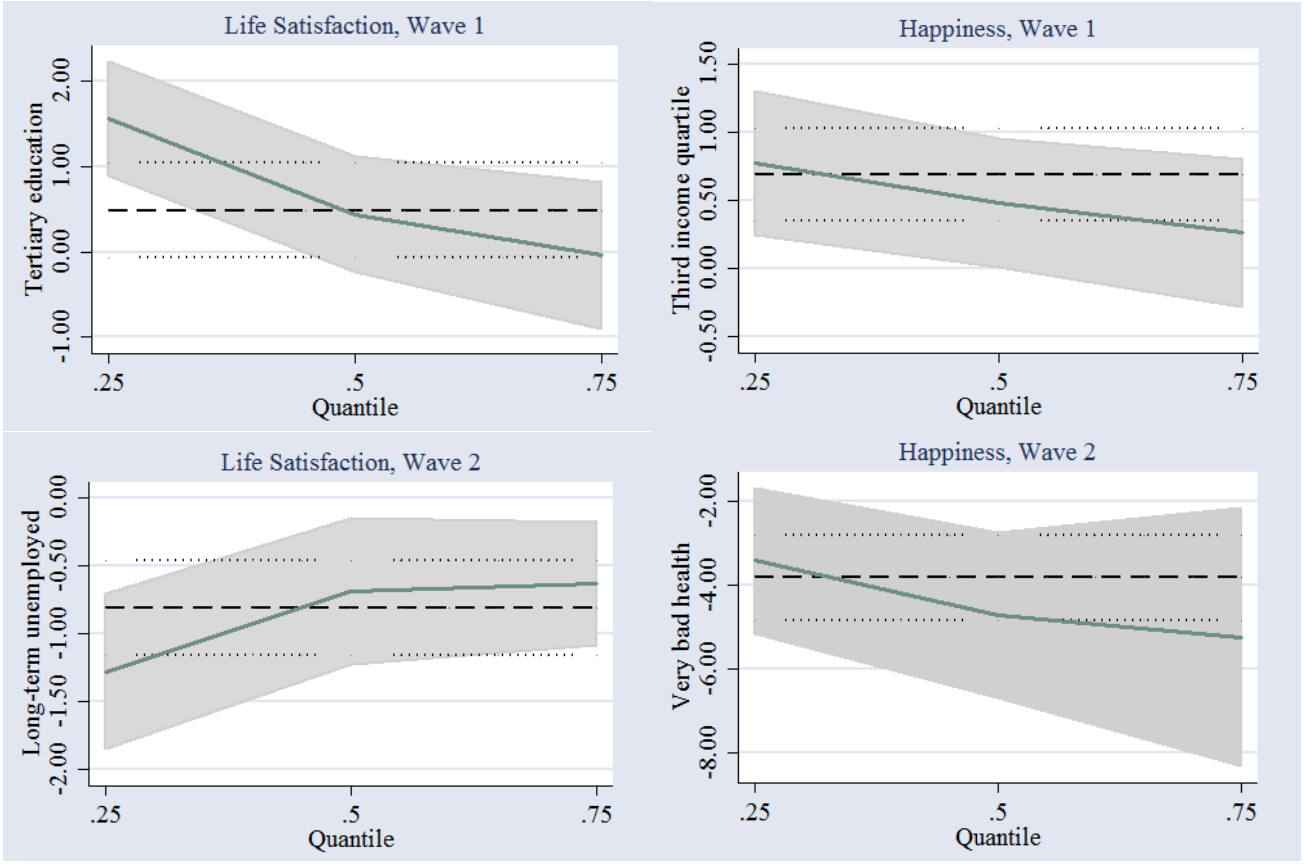
Table A4.5 Post-Estimation Tests Based on Quantile Regressions

	Link Test			
	Wave 1		**Wave 2**	
	Life Satisfaction	**Happiness**	**Life Satisfaction**	**Happiness**
Q25	0.639	0.677	0.750	0.817
Q50	0.353	0.706	1.000	1.000
Q75	0.099	0.103	0.854	0.569

Sources: EQLS 2007–2008 and 2011–2012.

Note: p-values reported. Test for miss-specification of the model.

Figure A4.1 Coefficients of Selected Capabilities for Life Satisfaction and Happiness over the Quantiles of the SWB Distribution



Sources: EQLS 2007–2008 and 2011–2012.

Notes: Vertical axes show coefficient estimates of an explanatory variable over the SWB distribution; horizontal axes depict the quantiles of the dependent variables. Quantile regressions error bars correspond to bootstrapped 95% confidence intervals (100 bootstrap replications). Horizontal line depicts the coefficient of standard OLS (average) regressions.

CHAPTER 5

A DETAILED ANALYSIS OF THE RELATIONSHIP BETWEEN SWB AND EMPLOYMENT OUTCOMES

5.1. Introduction

In line with previous studies (Frey & Stutzer, 2002, Layard, 2011), the empirical analysis in Chapter 4 found a positive correlation between individuals' employment status and SWB in Macedonia. The current chapter takes the research a step further by developing a detailed examination of the relationship between SWB and factors related to individuals' employment status in Macedonia. The relevant literature on labour-market status and SWB reviewed in section 5.2 shows that there are other factors important for SWB beyond having a job (De Neve & Ward, 2017) or factors that mitigate the negative consequences of unemployment on SWB (Winkelmann & Winkelmann, 1998, Winkelmann, 2014, Wulfgramm, 2014).

An important feature of the literature on SWB of the employed is that it is predominantly built on foundational ideas from other disciplines (e.g. organisational psychology, managerial psychology, sociology). Although these disciplines often refer to well-being, they focus on different outcomes such as job engagement, quality of work, behaviour and mental-health outcomes such as stress, job satisfaction (only one of the domains of life satisfaction) or psychological well-being (clinical symptoms of manifesting stress leading to mental illnesses) (Johnson et al., 2005). This suggests the need for SWB research that interests itself in employment status to broaden its scope of outcome variables, such as life satisfaction and happiness, the most commonly used in economics of happiness. Determinants of SWB related

to unemployment have attracted the attention of numerous economists. While such useful research conversations continue to develop, their emphasis on developed economies makes it difficult to determine the extent to which these findings apply to other countries. This chapter attempts to ascertain the validity of these findings in the case of Macedonia.

This chapter addresses the paucity of research on SWB and the labour market in transition countries, and it is among a few studies undertaken with a focus on an individual transition country with a high unemployment rate (for example, see Eggers et al., 2006). This study pays particular attention to the context of the labour market in Macedonia, which has remained largely unexplored when it comes to SWB. As discussed in Chapter 3, the Macedonian labour market has not fully recovered from the transition process. It still struggles with low employment rates among the youth, existence of an informal economy (Micevska, 2008) and exclusion of vulnerable groups from the labour market (Kostadinov, 2009). A salient feature of the Macedonian labour market is the presence of a high unemployment rate that has long-term characteristics (see sections 3.8.4 and 3.8.5). This reflects weak labour-market conditions.

Even though the sluggish labour market characterised by these issues has almost become the norm, and thus being unemployed may be socially acceptable (Clark, 2003), these concerns may affect people's lives negatively in a number of ways. First, the unemployed experience a higher burden of unemployment when they live in places with high unemployment rates (Chadi, 2014) or when they live in a poor household or neighbourhood (Shields & Price, 2005).[30] Second, high unemployment rates have negative consequences even on SWB of those who are not personally affected by unemployment (Wolfers, 2003). In fact, Clark (2003) indicates that the effect of unemployment is greater on the employed due to increased fear of losing their job, and the spill-over effect of unemployment affects the immediate family, including children.

[30]In addition, the SWB of the unemployed (especially females) may face further decline if their family members (husband) are made redundant (Mavridis, 2010).

Children's SWB could be adversely affected even by parents' past unemployment, after the parent has become employed again (Powdthavee & Vernoit, 2012). Unemployment may result in harsh working conditions in terms of stagnant wages, amended working conditions and working hours, reduced possibilities for promotion and fewer opportunities to change jobs (Layard et al., 2005). Finally, unemployment may lead to problems in society, such as inequality (Öster & Agell, 2007), higher risk of crime (Stutzer & Frey, 2012) or higher taxation as a result of intensified welfare spending (Litchfield et al., 2012), all of which may compromise the SWB of individuals living in areas where high unemployment exists.

Against this background, three research questions are proposed to examine how the effect of the employment-related and unemployment-related determinants reflects on an individual's SWB in the context of the Macedonian labour market. These are: 'What particular socio-economic factors have a similar impact on the SWB of the employed and the unemployed?'; 'What job-related characteristics affect the SWB of the employed?'; and 'What are the unemployment-related characteristics associated with the SWB of the unemployed?'

By identifying aspects of employment or unemployment status that influence SWB, this chapter offers an addition to the literature on the SWB and labour-market conditions at individual levels (for example, see De Neve & Ward, 2017), as the analysis focuses on a new country that has not been studied before. Additionally, the analysis contributes to the World Happiness Reports (Helliwell et al., 2017) and EQLS Reports (Soldi et al., 2014), which constantly find trends of increasing SWB in Macedonia over time. More specifically, the second part of the analysis investigates the increase of SWB in Macedonia in a way that overcomes the drawback of cross-sectional data.

The remainder of the chapter commences with a review of relevant literature in the area of employment activity and SWB, then presents the data and the methods used to analyse the data. The analysis is based on three approaches: OLS, kernel matching, and Blinder-Oaxaca

decomposition. The chapter shows the results of the different methods, concludes and offers recommendations for policy makers.

5.2. Empirical Literature

5.2.1. The SWB of the Employed

5.2.1.1. Occupation

Beyond the positive effect of being employed discussed in the previous section, numerous studies reveal more specific findings related to what else is important for SWB (De Neve & Ward, 2017). Argyle (2013) finds that SWB is higher among skilled employees, compared to people who have less skills and knowledge. Furthermore, Johnson et al. (2005) find that engaging in occupations that involve contact with clients, threats of violence, exposure to high risk and stress, or less control over issues at the workplace lead to low scores in job satisfaction and psychological well-being in the UK.

5.2.1.2. Type of Sector

Other studies examine the effect of the type of sector on employee SWB. Generally, employees in the public sector tend to report higher life satisfaction as compared to their counterparts in the private sector in Turkey (Ozsoy et al., 2014). This relationship has also been observed when researchers focused on the life-satisfaction gap between the employed in the private and the public sector during periods of high unemployment in Germany, the US and the EU (Luechinger et al., 2010). These findings may be explained by the conditions that public-sector employees enjoy, such as higher employment protection and economic security, lower probability of bankruptcy and dismissal, less likelihood of decreased wages and changes in

working hours (Luechinger et al., 2010).[31] Nevertheless, scholars argue that private-sector employees feel greater organisational commitment (Lyons et al., 2006), which comes from the benefit packages, higher economic rewards and opportunities to grow within the organisation (Goulet & Frank, 2002). By comparison, the nonprofit sector in the US and the EU was found to contribute to high job satisfaction because of the nonpecuniary benefits it offers its employees (Benz, 2005).

5.2.1.3. Length of Contract

Taking the length of contracts into consideration, researchers have found that temporary contracts negatively affect different aspects of SWB. More specifically, temporary contracts lower job satisfaction of the employed in Germany (Chadi & Hetschko, 2013), Spain (Ferrer-i-Carbonell & van Praag, 2006) and Europe (Origo & Pagani, 2009) and affects the self-assessed physical and mental health (Pirani & Salvini, 2015) and happiness of employees in Italy (Carrieri et al., 2012). In addition, those contracts are thought to be associated with high job insecurity (De Witte & Näswall, 2003), lower employment protection and greater pressure to finish tasks in shorter periods (Dawson et al., 2015), lower salaries (Gash & McGinnity, 2006), limited training opportunities (Booth et al., 2002), fewer employment prospects (Rigotti, 2009), reduced probability of getting access to job benefits and different power relationships at the workplace (Benavides et al., 2006).

Benach et al. (2000) claim that the effects of fixed-term contracts on employees are comparable to the ones from unemployment, as temporary jobs terminate frequently, increasing probability of those employees becoming unemployed (Kim et al., 2008) and triggering worry about losing income, both of which in turn affect SWB (Sverke et al., 2002). The negative effects of temporary contracts have also been explained by the comparison effect, where these

[31]Luechinger et al. (2006) argues that people choose to work in one of these sectors based on personality characteristics, such as their levels of risk aversion. Here, public-sector employees are usually more risk averse.

employees compare themselves to others with permanent contracts and perceive their work circumstances as unfavourable (Pearce, 1998). Employees on a temporary contract tend to work overtime and invest their time and efforts without receiving additional money, expecting a positive outcome at the end of the temporary contract (Galup et al., 1997, McDonald & Makin, 2000) in the hope that their contract will be renewed (Engellandt & Riphahn, 2005). If their temporary job does not lead to a permanent job, it creates job dissatisfaction and stress. In such instances, temporary employees may feel exploited (De Witte & Näswall, 2003). In addition, given that the temporary contracts last for a fixed period of time, these employees may not invest time and efforts in building internal relationships with other permanent employees (Gallagher & Parks, 2001, De Cuyper et al., 2008). Also, they get less training.

On the other hand, employees on permanent contracts tend to perceive higher job security and hence may invest more of their time in establishing enduring relationships at the workplace (Clark & Postel-Vinay, 2009). The security they receive lends itself to increased job satisfaction and, therefore, higher levels of SWB (Chadi & Hetschko, 2013). Nevertheless, some other studies find no significant differences in life satisfaction (and, accordingly, job satisfaction) between those employed on temporary or permanent contracts (Booth et al., 2002, De Cuyper & De Witte, 2006, Green & Heywood, 2011, De Graaf-Zijl, 2012).

5.2.1.4. Job Insecurity

Others have argued that SWB depends more on job insecurity than the type of contract (Lewchuk et al., 2008, Origo & Pagani, 2009). This has led a number of scholars to focus on job insecurity as a major factor for predicting SWB of employees (Hellgren et al., 1999, De Neve & Ward, 2017). Job insecurity represents a self-reported measure of how employees perceive the probability of losing their job unwillingly in the near future (Burchell, 2011). This

uncertainty makes individuals stressed, and an earlier study in the US by Burchell (1990) rates the fear of losing one's job the same as the psychological loss experienced by the unemployed.

In addition, the fact that employees do not adapt to this situation often prolongs the period of uncertainty, which in turn worsens their stressful conditions. For instance, as the company reduces its size in terms of the number of employees, feelings of job uncertainty have an immediate impact on employees' psychological health (Burchell, 2011). This intensifies in situations where a colleague becomes unemployed, so the employed within the same organisation may be stressed, contributing to anxiety and even moderate depression (Burchell, 2011). Nolan (2002) claims that the negative consequences spread not only to the employed but also to their partners and families, due to the fact that job insecurity may influence employees' behaviour, not only with regard to their dedication at the workplace or attitude toward looking for a job but also in terms of making crucial life decisions for the future, such as the purchase of housing or establishing a family (Nolan, 2002).

5.2.2. The SWB of the Unemployed

Although the literature widely confirms that unemployment has a detrimental effect on SWB, some scholars find that not all the unemployed are equally unhappy (Winkelmann, 2014). Such studies investigate how jobless people's SWB varies depending on circumstances tied to their unemployment.

5.2.2.1. Length of Unemployment

One such factor is the length of unemployment. The long-term unemployed have been considered less happy (Krueger & Mueller, 2011), although Winkelmann (2014) concludes that duration does not play an important role in the life satisfaction of unemployed individuals. Importantly, and contrary to expectations (as is the case with many other life events), adaptation to unemployment is less evident (Clark et al., 2008, Frijters et al., 2011, Blackaby et al., 2012,

Clark & Georgellis, 2013). This means that with the passage of time, the negative effect of unemployment on SWB does not diminish because people are less likely to adapt to unemployment. In this regard, Powdthavee (2012) identifies the drop in satisfaction with social life and financial situations among the reasons for small adaptation to unemployment.

5.2.2.2. Unemployment Benefits

Another important element of being unemployed that may affect one's SWB is the receipt of unemployment benefits. Unemployment benefits are part of the unemployment insurance, meant to protect the unemployed against the adverse effects that arise from their unemployment status (Holmlund, 1998). Research suggests that the unemployed value unemployment benefits, and the improved economic situation positively associates the benefits with SWB of the unemployed in developed European countries (Ochsen & Welsch, 2012).[32] However, the little research done in single transition countries negatively relates these benefits to SWB. For example, those who receive social transfers in Armenia, Azerbaijan and Georgia are found to be less happy (Habibov & Afandi, 2009) and their counterparts in Albania less satisfied with their lives (Litchfield et al., 2012). Finally, a study of young Swedish unemployed finds that the effects of benefits on SWB are insignificant (Korpi, 1997).

5.2.2.3. Employment History

Mixed results also exist with regard to the SWB effect of previous labour-market status of an individual while currently unemployed. On one hand, Chen et al. (1994) point out that among the currently unemployed, those who have experienced job losses in the past experience greater negative impact on SWB, compared to those becoming unemployed for the first time. Likewise,

[32]At macro levels, unemployment benefits contribute to SWB of the whole population (Di Tella et al., 2003), and in regions where the unemployment insurance is lower, unemployment has a larger negative effect on SWB (Becchetti et al., 2010).

being previously unemployed in Germany does not reduce the burden of present unemployment; therefore, those who had experienced unemployment in the past report lower SWB (Lucas et al., 2004). However, another study in Germany found that the negative effect of current unemployment is weaker for those who have been unemployed in the past (Clark et al., 2001). Finally, the negative effect of past unemployment on SWB of the present unemployed is limited, and therefore the SWB of the unemployed in Sweden does not differ based on their labour-market history (Korpi, 1997).

Although a substantial amount of research has focused on unemployment, issues concerning the unemployed in transition countries have not yet been fully addressed. An expanded array of correlates of SWB during periods of unemployment is needed to point out what conditions may play a role in improving SWB or mitigating the adverse influence of being unemployed in Macedonia.

5.3. Data and Variables

As detailed in Chapter 4, the data for this study is from the EQLS and covers two waves, 2007–2008 and 2011–2012. Given that the main purpose of this chapter is to consider the employed and the unemployed, the sample is narrowed to those who identified themselves with either of these groups. Thus, the sample consists of 351 and 429 employed people in 2007–2008 and 2011–2012, respectively. The sample size of the unemployed is 223 in 2007–2008 and 160 in 2011–2012. The dataset contains relatively representative samples of individuals and offers a diverse range of information relating to the employment status of the employed or unemployed status of the unemployed individuals (see the succeeding sub-sections).

5.3.1. Dependent and Explanatory Variables

As discussed in Chapter 4, the dependent variables are life satisfaction and happiness, which represent functionings according to the capability approach. Education, health and income are used as proxies for capabilities, while gender, age, marital status, number of children and residential area represent what Sen (1985) calls conversion factors. Slightly different from the form of the variables used in Chapter 4, for the purposes of this chapter only, some of those variables have been regrouped, to minimise the problem of a small sample size for the particular subcategories (Mehmetoglu & Jakobsen, 2016). For instance, from the capabilities list, the education variable here consists of secondary (or lower) and tertiary education. Similarly, the bad and very bad categories from the health variable are merged into one group, bad health. The divorced and widowed people from the variable marital status have also been combined into one group.

However, the main interest of this chapter is a range of employment-status-related variables used to investigate the complexity of the relationship between SWB and employment or unemployment. The choice of these new variables is based on several theories, summarised in Table A5.1.

Self-determination theory (Ryan & Deci, 2000) is mainly used for selection of the employment-related variables. According to this theory, SWB is a function of the conditions in the social context (Waterman, 1993, Ryan & Frederick, 1997). More specifically, the conditions in the social environment may increase SWB by satisfying three psychological needs, such as competence (White, 1963, Harter, 1978), relatedness (Reis et al., 2000, Leary & Baumeister, 2017) and autonomy (Deci & Ryan, 1995). Because meeting such needs does not depend on personal characteristics, but rather on the opportunities that the environment offers, their satisfaction is essential for growing SWB. Therefore, the degree to which these needs have been met determines SWB among employees.

The analysis focuses on factors of one's job, including current occupation, type of sector, type of contract and job insecurity. Some of the categories of these variables have been combined in order to be comparable across the waves, as the questions were asked in a slightly different way in the later wave or contained different possible answers. Table A5.2 provides further details of the variables and how they have been combined.

In the context of self-determination theory, higher occupations (e.g. managerial, professional) allow the person to feel competent and autonomous, and therefore are expected to lead to higher SWB. With regard to the type of contract, temporary contracts may prevent relatedness and employees may fail to have a sense of belonging if a connection with other people is missing. In addition, according to the psychological-contract theory, employees on temporary or permanent contracts have different perspectives, and thus different expectations from their employment (De Cuyper & De Witte, 2006). Therefore, employees on permanent contracts benefit from increased autonomy, meaning they have more choices if they want to move to another job (Ryan & Deci, 2000). The type of sector may influence the SWB of employees with respect to opportunities for self-direction and freedom from extended external pressure likely to exist in the public sector. Finally, job insecurity would have a negative impact on SWB from missing a sense of choice and acknowledgements of feeling, which could lead to decreased autonomy (Deci & Ryan, 1995).

Regarding SWB of the unemployed, the analysis focuses on three variables: duration of unemployment (consisting of those who are short-term unemployed—less than 12 months—and long-term unemployed, those unemployed 12 months or more), the existence of previous employment and receipt of unemployment benefits. The variable duration of unemployment is chosen, based on the stage theory that claims the existence of phased psychological response in

SWB involving three stages (Fink, 1967).[33] Initially, workers who lose their job may feel optimistic about finding another one, followed by a predominantly opposite feeling of pessimism, and the final stage, the feeling of fatalism (Darity & Goldsmith, 1996). In other words, as unemployment duration lengthens, presumably the negative effect of SWB intensifies. Therefore, in this analysis, the long-term unemployed are hypothesised to report lower SWB.

The variable regarding previous employment of the currently unemployed person is based on the adaptation theory (Campbell et al., 1976, Rayo & Becker, 2007), according to which people adapt to life changes after time. If adaptation is true also for being unemployed, an unemployed worker who has not had a job previously should have adapted to their unemployment status over time. It is thus expected that the unemployed person who has been working previously would experience lower SWB when unemployed than the one with no previous employment history, as the latter has adapted to the status.

The inclusion of the variable regarding the receipt of unemployment benefits is based on the agency-restriction model (Fryer, 1995). Fryer's theory highlights the importance of loss of income that causes deterioration of the unemployed's financial situation. Therefore, the unemployed experience stress that makes the future uncertain and causes the decline of SWB. Based on this theory, if unemployed workers are compensated (receive unemployment benefits) for their financial deprivation, they should report higher SWB, compared to unemployed who do not receive benefits.

5.3.2. Descriptive Statistics

This section discusses the raw differences in SWB across a range of sub-groups amongst the employed and the unemployed. While Tables 5.1 and 5.2 focus on the mean values of life

[33]Although it would have been interesting to undertake separate analyses of the short- and long-term unemployed, the small sample size precludes such an approach. Therefore, a dummy variable for the length of unemployment has been added to the models to capture the differences between the short- and long-term unemployed.

satisfaction and happiness across a range of characteristics tied to employment status for the employed and unemployment status for the unemployed, Tables A5.3 and A5.4 show the summary statistics of all the variables.

Table 5.1 Descriptive Statistics for the Employed

	Life Satisfaction				Happiness			
	Wave 1		Wave 2		Wave 1		Wave 2	
Variable	**Mean**	**Obs.**	**Mean**	**Obs.**	**Mean**	**Obs.**	**Mean**	**Obs.**
Professional/Managerial	6.4	39	7.4	111	7.0	38	7.7	112
Technician/ Junior Professional	6.0	40	7.3	37	7.4	40	7.9	37
Clerical Support Worker	6.4	31	7.0	54	7.5	31	7.4	54
Service Worker	5.9	43	6.4	51	7.1	43	7.4	51
Sales Worker	6.5	19	6.8	62	7.4	19	7.5	62
Skilled Semiskilled Worker	5.2	147	6.6	77	6.1	147	7.1	78
Unskilled Worker	5.2	30	7.3	35	6.3	30	8.0	35
Very Likely	5.3	41	6.2	34	6.3	40	7.2	34
Quite Likely Fear	5.7	67	6.3	60	6.8	67	6.9	60
Neither Likely Neither Unlikely Fear	5.3	55	6.9	98	6.5	55	7.5	98
Quite Unlikely Fear	5.8	56	7.1	94	6.6	56	7.6	95
Very Unlikely Fear	6.1	93	7.5	115	7.0	93	7.9	116
Don't Know Fear	5.6	37	7.1	26	6.4	37	7.9	26
Public Sector	5.8	113	7.1	118	6.9	113	7.4	119
Private Sector	5.7	202	6.9	248	6.6	201	7.5	249
Other Sector	5.5	34	7.0	61	6.2	33	8.1	61
Unlimited Contract	5.9	221	7.1	301	6.9	222	7.6	303
Other Contract	5.4	128	6.8	126	6.4	126	7.5	126
Total	5.7	349	7.0	427	6.7	348	7.6	429

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Mean values for SWB measures and the sample sizes from which the means have been calculated.

The reported levels of life satisfaction and happiness of the employed varied by the range of characteristics related to the respondents' job. According to the division of current occupation, the results for the mean values are mixed and no clear pattern can be seen across the categories. For example, while the professional/managerial group reported the highest life satisfaction in Wave 2, that same year the happiest employed group were the unskilled workers. The mean values of life satisfaction and happiness showed a more consistent picture when looking at job insecurity. As the fear of losing one's job decreased, the two measures of SWB increased. Thus, the happiest and most satisfied with their lives were people who perceived the

probability of their job loss as very unlikely. Public-sector employment seemed to contribute to the highest SWB in both years, with the exception of happiness in 2011–2012, when the private sector and other sectors scored better. Finally, the employed on unlimited contract experienced higher SWB compared to people on other types of contracts in Wave 2 (Table 5.1).

Turning now to the descriptive statistics of the unemployed in Macedonia, Table 5.2 shows that those who have been long-term unemployed were less happy and satisfied with their lives across the two periods examined than those unemployed for up to 12 months. The results also suggest that respondents who received unemployment benefits expressed lower life satisfaction than the unemployed who were not on unemployment benefits. The unemployed respondents who never had a job enjoyed higher life satisfaction and happiness compared to the unemployed who had been employed in the past.

In addition to these trends between the sub-groups, in 2011–2012, increases in SWB were noticed, using both measures. With regard to the employed, overall life satisfaction increased from 5.7 in 2007–2008 to 7.0 in 2011–2012, while happiness rose from 6.7 in 2007–2008 to 7.6 in 2011–2012. Individually, all sub-groups, except the clerical support workers regarding happiness, reported greater SWB in the later year. Similarly, the overall life satisfaction of the unemployed in Wave 1 was 4.1 and increased to 5.7 in Wave 2. Their happiness levels increased from 5.4 in 2007–2008) to 6.6 in 2011–2012. The improvement in both measures of SWB in 2011–2012 was evident for each sub-group within the category of unemployed respondents. These raw gaps are sizeable in relative terms. Later analysis in Section 5.5 will examine the SWB increase more closely.

Table 5.2 Descriptive Statistics for the Unemployed

	Life Satisfaction				Happiness			
	Wave 1		Wave 2		Wave 1		Wave 2	
Variable	**Mean**	**Obs.**	**Mean**	**Obs.**	**Mean**	**Obs.**	**Mean**	**Obs.**
Short-term Unemployed	5.0	41	6.1	24	6.0	40	7.0	24
Long-term Unemployed	3.9	182	5.6	136	5.3	178	6.5	136
Yes Unemployment Benefits	3.4	58	4.8	28	4.6	58	6.4	28
No Unemployment Benefits	4.3	165	5.9	132	5.7	160	6.6	132
Yes Previous Employment	3.7	116	5.5	118	5.3	116	6.4	118
No Previous Employment	4.5	107	6.2	42	5.5	102	6.9	42
Total	4.1	223	5.7	160	5.4	218	6.6	160

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Mean values for SWB measures and the sample sizes from which the means have been calculated.

5.4. Econometric Methods

Apart from the employment-related characteristics discussed in the descriptive statistics, many other features characterise the respondents and can contribute to the differences in the reported mean values of life satisfaction and happiness. Thus, in the next sections, regression models are applied to those main variables of interest, alongside a fairly standard set of socio-economic variables. This leads to developing conclusions for the effect of a particular employment- or unemployment-related characteristic on SWB after accounting for other factors. Prior to that, the analysis compares the effect of the same socio-economic variables on both the employed and the unemployed.

5.4.1. OLS Regressions

Rather than ordered probit models, OLS regressions have been used as the analysis in Chapter 4 showed, namely, that treating life satisfaction and happiness as continuous variables, although they are ordinal in nature, does not produce different results. Moreover, using OLS is a conventional practice in SWB studies, given that the results do not depend on the method used (Ferrer-i-Carbonell & Frijters, 2004).

The first model explores the dependent variable Y (life satisfaction or happiness) of an employed or an unemployed individual i, conditioned on X_i, a set of self-reported capabilities such as income, education and health, and conversion factors including gender, age, marital status, number of children and residential area. Hence,

$$Y_i = \alpha + \beta X_i + \varepsilon_i \quad (5.1)$$

where α is an intercept and shows the value that Y_i takes when everything else is zero; β is a set of the coefficients to be estimated; and ε_i is a residual or error term that captures measurement errors, the unobserved traits or additional factors not included in the model.

Following the comparison of the employed and unemployed, both groups are analysed separately. The OLS regression models have two specifications. The main one is:

$$Y_i = \alpha + \beta X_i + \delta Z_i + u_i \quad (5.2)$$

where δ is a set of the coefficients to be estimated attached to the variables related to the labour-market status of an individual i; Z_i is the job-related factors (for the employed), or unemployment-related explanatory variables (for the unemployed). The socio-economic characteristics are captured in X_i, while u_i is the error term. Before this, there is the reduced model that controls for the job-related (or unemployment-related) characteristics only.

$$Y_i = \alpha + \delta Z_i + v_i \quad (5.3)$$

Except for age, age^2 and number of children, all other explanatory variables are represented by a series of dummy variables. The first dummy is excluded and used as a baseline (reference) category in all cases. Regarding the employed, excluded categories are professional/managerial, very likely for fear of losing job, public sector, and other contract (see Table 5.1). In the case of the unemployed, omitted variables are short-term unemployed, receive unemployment benefits, yes previous employment (see Table 5.2). From the rest of the socio-economic variables, the excluded dummies are male, married, rural, secondary or less education, very good health and first quartile income.

Finally, after running OLS based on equation (5.2) for the employed, some additional tests were performed to test whether the models had been misspecified (Ramsey, 1969, Ramsey & Gilbert, 1972) or suffered from omitted variables (Pregibon, 1979) or heteroscedasticity (Breusch & Pagan, 1979, Cook & Weisberg, 1983). The results (p-value) can be found in Table A5.6. Since the results have no statistical significance, it means that the estimated models do not suffer from misspecification or omitted variables. Looking at the results from heteroscedasticity, the results are also insignificant. Only the test for happiness in 2011–2012 could not reject the null hypothesis of no heteroscedasticity. For this reason, all OLS models have been estimated using the command -robust- in Stata, which is a Huber/White correction of the standard errors for heteroscedasticity (Huber, 1967, White, 1980).

Table A5.7 presents the results from the post-estimation tests based on the OLS equation (5.2) for the unemployed. The models do not suffer from heteroscedasticity according to the Breusch-Pegan/Cook-Weisberg tests that have been used. In addition, the results reject the hypothesis of presence of model-misspecification or issue with omitted variables. Only the test for omitted variables for life satisfaction in 2011–2012 produced marginally significant results at 5%.

5.4.2. Results

The following sections provide the estimated coefficients from the OLS regressions. First, the results compare the effect of the same socio-economic variables (capabilities and conversion factors) on the SWB of the employed and the unemployed. Therefore, the analysis is useful in giving an initial idea of the effect of the standard socio-economic determinants on SWB on the distinct groups in the labour market. Following this, the discussion of the results focuses mainly on the key variables of interest in this chapter, namely, the job-related variables and unemployment-related variables, as the fist section discussed the socio-economic determinants.

5.4.2.1. Employed vs. Unemployed

This section discusses the regressions results from equation (5.1) in order to answer the first research question: 'What particular socio-economic factors have a similar impact on the SWB of the employed and the unemployed?' Table 5.3 refers to the results from Wave 1, while Table 5.4 contains the results from Wave 2.

Table 5.3 OLS Estimates of SWB for the Employed and the Unemployed, Wave 1

	Life Satisfaction Employed	**Life Satisfaction Unemployed**	**Happiness Employed**	**Happiness Unemployed**
Female	-0.010	0.158	0.218	0.489
	(0.228)	(0.324)	(0.225)	(0.331)
Age	-0.013	-0.218**	-0.040	-0.150*
	(0.086)	(0.098)	(0.077)	(0.088)
$Age^2/100$	0.017	0.231**	0.057	0.147
	(0.102)	(0.113)	(0.091)	(0.104)
Divorced/Widowed	-0.256	-0.231	-2.174***	-1.426***
	(0.611)	(0.573)	(0.529)	(0.512)
Single	-0.162	0.526	-0.613	-0.813
	(0.401)	(0.535)	(0.435)	(0.506)
Number of Children	0.051	0.314*	0.008	-0.168
	(0.141)	(0.174)	(0.168)	(0.172)
Urban	0.272	-0.490	0.142	-0.104
	(0.226)	(0.308)	(0.223)	(0.313)
Tertiary Education	0.042	0.149	-0.032	0.735*
	(0.296)	(0.582)	(0.284)	(0.443)
Good Health	-1.190***	-0.450	-1.109***	0.046
	(0.278)	(0.448)	(0.263)	(0.410)
Fair Health	-1.564***	-0.686	-1.991***	-0.519
	(0.332)	(0.487)	(0.320)	(0.456)
Bad Health	-2.280***	-1.144*	-3.174***	-1.506**
	(0.833)	(0.621)	(0.598)	(0.598)
Second Quartile Income	1.736***	1.466***	1.277***	1.432***
	(0.408)	(0.438)	(0.441)	(0.472)
Third Quartile Income	1.866***	1.323***	0.891**	1.121***
	(0.383)	(0.488)	(0.430)	(0.410)
Fourth Quartile Income	2.168***	2.944***	1.629***	1.682***
	(0.385)	(0.716)	(0.434)	(0.626)
Income Not Reported	1.807***	1.427***	0.931	0.597
	(0.628)	(0.454)	(0.604)	(0.460)
Number of Observations	347	223	346	218
Adjusted R^2	0.138	0.188	0.180	0.214

Source: EQLS 2007–2008.

Notes: Excluded categories are: Male, Married, Rural, Secondary Education or Less, Very Good Health and First Income Quartile. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

In Wave 1, only the effect of income on life satisfaction and happiness was consistent for both employed and unemployed, except in the case of the category 'income not reported' for happiness. The health dummy appeared as statistically significant determinants of SWB of the employed, but not of the unemployed, except for the category of 'bad health', which is significant in all cases. The negative coefficient of bad health of the employed is much larger

in magnitude, at 2.280 for life satisfaction and 3.174 for happiness, and significant at the 1% significance level, compared to the impact it has on the unemployed: 1.144 and significant at the 10% significance level for life satisfaction, and 1.506 and significant at the 5% significance level for happiness. This may be explained by the fact that poor health conditions may restrict employees from performing their everyday duties at work, or even from getting particular jobs (Zhang et al., 2011). Being divorced or widowed led to a decrease in happiness in 2007–2008 for both the employed and unemployed; however, the effect for the employed worker was stronger. Other variables with effect only on SWB of the unemployed were tertiary education that increased happiness; and age, which followed a U-shape when it comes to life satisfaction. Each additional child increased only life satisfaction of the unemployed by 0.3 points (Table 5.3). This could be because for the unemployed, children may bring some variety and responsibility (Ambert, 2014) into their often monotonous life.

According to the findings in Table 5.4, the effect of the variables in 2011–2012 had slightly changed. Health and income (excluding the second income quartile) were the strongest predictors of SWB for both the employed and the unemployed. While the results were similar in terms of the level of significance, there was a substantial difference in the magnitude of the coefficients, with respect to the people who reported bad health, where life satisfaction of the employed was decreased by 2.7 points, and of the unemployed by 1.3 points. The results concerning the effect of fair health on happiness were much weaker for the employed, compared to the effect on the unemployed. In the same year, income had a stronger impact on life satisfaction of the unemployed. Specifically, the coefficients of third quartile income of the unemployed were three times greater than the coefficient attached to life satisfaction of the employed. Similarly, the effect of the fourth income quartile was as twice as large on life satisfaction of the unemployed. Being female in Macedonia was positively correlated with happiness in 2011–2012 for both the employed and the unemployed; however, the influence on

the unemployed was twice as much on the employed. This may imply that unemployed females may be unemployed by choice, so they were much happier. The findings also suggest that the employed who were divorced/widowed experienced reduced SWB, while no significant effect was found for the unemployed. Similarly, age affected only SWB of the employed.

Table 5.4 OLS Estimates of SWB for the Employed and the Unemployed, Wave 2

	Life Satisfaction Employed	**Life Satisfaction Unemployed**	**Happiness Employed**	**Happiness Unemployed**
Female	0.170	0.536	0.320*	0.625**
	(0.184)	(0.354)	(0.163)	(0.268)
Age	-0.116*	-0.036	-0.125*	-0.021
	(0.068)	(0.111)	(0.065)	(0.094)
$Age^2/100$	0.135*	0.024	0.148*	0.025
	(0.080)	(0.121)	(0.079)	(0.100)
Divorced/Widowed	-0.803*	0.730	-1.391***	0.142
	(0.436)	(0.925)	(0.435)	(0.643)
Single	-0.267	0.218	-0.533	-0.208
	(0.350)	(0.707)	(0.326)	(0.631)
Number of Children	0.023	0.078	-0.042	0.075
	(0.154)	(0.182)	(0.127)	(0.181)
Urban	-0.299	-0.384	-0.200	0.197
	(0.186)	(0.364)	(0.162)	(0.285)
Tertiary Education	0.070	0.363	0.046	0.134
	(0.197)	(0.497)	(0.160)	(0.403)
Good Health	-0.773***	-0.890*	-1.234***	-0.534
	(0.207)	(0.490)	(0.187)	(0.387)
Fair Health	-1.254***	-1.256**	-1.553***	-3.165***
	(0.335)	(0.560)	(0.290)	(0.434)
Bad Health	-2.793***	-1.314*	-3.227***	-3.378***
	(0.520)	(0.695)	(0.459)	(0.529)
Second Quartile Income	0.445	0.726	0.357	0.097
	(0.371)	(0.517)	(0.306)	(0.424)
Third Quartile Income	0.863**	2.289***	0.181	1.155**
	(0.364)	(0.618)	(0.290)	(0.519)
Fourth Quartile Income	1.077***	1.953*	0.604**	1.530***
	(0.363)	(1.042)	(0.296)	(0.495)
Income Not Reported	1.409***	1.845***	0.864***	0.986***
	(0.353)	(0.487)	(0.279)	(0.376)
Number of Observations	427	159	429	159
Adjusted R^2	0.144	0.245	0.229	0.431

Source: EQLS 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Secondary Education or Less, Very Good Health and First Income Quartile. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Another interesting observation relates to the effect of the income not reported on SWB of the employed. Income not reported had a larger effect compared to the effect of the highest income quartile on both life satisfaction and happiness of the employed. This suggests that these employed people were close to the richest respondents who may opt not to report their income to protect themselves from paying higher taxes.[34] Similarly, as seen from Table 5.4, the

[34] The size of their sample is similar to the ones in the fourth income quartile (109 and 115 observations).

coefficient of income not reported was very close to the one of the fourth income quartile when it comes to the unemployed.[35] This perhaps relates to the fact that the unemployed tried to hide their income level so that they could be eligible for benefit payments (Fischbacher & Föllmi-Heusi, 2013).

5.4.2.2. Employment-Related Determinants of the SWB of the Employed

This section answers the second research question: 'What job-related characteristics affect the SWB of the employed?' The results are shown in Tables 5.5 (referring to 2007–2008) and 5.6 (from 2011–2012). The first model, based on equation (5.3), shows the results of the job-related characteristics without controlling for differences in socio-economic characteristics.

Compared to professional/managerial workers, lower life satisfaction was reported by the skilled/semiskilled workers (by 1.07 points) and unskilled workers (by 1.15 points). The results also suggest that employees who work in the private sector reported higher life satisfaction than those working in the public sector. However, these effects were not robust to the inclusion of the rest of the variables in model (2) (based on equation 5.2), likely due to the correlation with the income variable.

The association of life satisfaction and job insecurity (statistically significant effect was found for the last three categories) showed a clear negative pattern. This was persistent in model (2), although it was reduced in magnitude. As job insecurity increased, life satisfaction decreased in Wave 1. It is likely that job insecurity is related to income, as the results from cross-tabulation between income and job insecurity show that 31% of those in the first income quartile answered with 'very likely' or 'quite likely fear to lose their job'.

[35] There are 57 observations as opposed to only 5 observations in the fourth-income quartile.

Table 5.5 OLS Estimates of SWB for the Employed, Wave 1

	Life Satisfaction (1)	**Life Satisfaction (2)**	**Happiness (1)**	**Happiness (2)**
Technician/ Junior Professional	-0.261	0.071	0.465	0.715
	(0.460)	(0.480)	(0.502)	(0.493)
Clerical Support Worker	0.063	0.261	0.571	0.728
	(0.498)	(0.458)	(0.503)	(0.478)
Service Worker	-0.360	-0.074	0.170	0.430
	(0.447)	(0.514)	(0.492)	(0.507)
Sales Worker	0.438	0.575	0.602	0.597
	(0.694)	(0.763)	(0.608)	(0.621)
Skilled Semi-Skilled Worker	-1.070***	-0.453	-0.826*	-0.418
	(0.359)	(0.461)	(0.428)	(0.480)
Unskilled Worker	-1.156*	-0.557	-0.517	0.083
	(0.597)	(0.614)	(0.609)	(0.623)
Quite Likely Fear	0.514	0.316	0.594	0.185
	(0.441)	(0.428)	(0.380)	(0.381)
Neither Likely Neither Unlikely Fear	0.379	0.106	0.545	0.053
	(0.451)	(0.443)	(0.405)	(0.392)
Quite Unlikely Fear	0.751*	0.667*	0.458	0.125
	(0.440)	(0.427)	(0.400)	(0.369)
Very Unlikely Fear	1.002**	0.689*	0.688*	0.214
	(0.424)	(0.415)	(0.393)	(0.376)
Don't Know Fear	0.957*	0.870*	0.410	0.228
	(0.556)	(0.524)	(0.464)	(0.443)
Private Sector	0.492*	0.443	0.216	0.090
	(0.289)	(0.299)	(0.264)	(0.276)
Other Sector	0.339	0.343	-0.121	-0.349
	(0.394)	(0.410)	(0.408)	(0.403)
Other Contract	-0.392	-0.346	-0.273	-0.269
	(0.251)	(0.240)	(0.238)	(0.229)
Female		-0.008		0.100
		(0.229)		(0.235)
Age		0.011		-0.048
		(0.091)		(0.078)
$Age^2/100$		-0.013		0.062
		(0.109)		(0.094)
Divorced/Widowed		-0.257		-2.338***
		(0.627)		(0.571)
Single		0.085		-0.499
		(0.405)		(0.439)
Number of Children		0.066		0.001
		(0.146)		(0.168)
Urban		0.238		-0.0635
		(0.248)		(0.236)
Tertiary Education		-0.120		-0.219
		(0.371)		(0.339)
Good Health		-1.154***		-1.095***
		(0.280)		(0.260)
Fair Health		-1.532***		-1.924***
		(0.333)		(0.319)
Bad Health		-2.027**		-2.708***
		(0.883)		(0.683)
Second Quartile Income		1.649***		1.122**
		(0.433)		(0.459)
Third Quartile Income		1.750***		0.716*
		(0.417)		(0.431)
Fourth Quartile Income		1.908***		1.394***
		(0.397)		(0.437)
Income Not Reported		1.557**		0.803
		(0.641)		(0.577)
Number of Observations	349	347	348	346
Adjusted R^2	0.045	0.142	0.053	0.203

Source: EQLS 2007–2008.

Notes: Excluded categories are: Professional/Managerial, Very Likely Fear, Public Sector, Unlimited Contract, Male, Married, Rural, Secondary Education or Less, Very Good Health and First Income Quartile. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

.[36] In addition, 28% of the people in the second quartile reported 'quite likely fear to lose their job'. Job insecurity appeared to be less of an issue for people with higher income. Among those who belong in the fourth income quartile, only 7% reported 'very likely fear to lose their job' whilst more than a third said this was quite unlikely.

With regard to happiness in 2007–2008, statistically significant determinants relate to being a skilled/semi-skilled worker and answering 'very unlikely' to the question regarding job insecurity. These findings were true only when looking at the impact of the job-related variables; once the model accounted for the impact of the socio-economic determinants, the effects ceased to be statistically significant (Table 5.5). Thus, only income, health and being divorced or widowed affected happiness of the employed.

The determinants of life satisfaction of the employed in Macedonia in 2011–2012 are shown in Table 5.6. According to these results, relative to professional/managerial workers, service and skilled/semi-skilled workers were less satisfied with their lives by 0.92 points and 0.61 points, respectively. Also, people who reported 'quite unlikely' and 'very unlikely' with respect to fear of losing their job had higher levels of life satisfaction, compared to people who expressed 'very likely' fear. In the second model, however, some effects lost their significance after the other variables were added to the model. Only 'service worker' and 'very unlikely' fear continued to be statistically significant, although their coefficients were slightly reduced.

With regard to happiness in Wave 2, according to model (1), being a semi-skilled worker related to lower happiness. Jobs in private and other sectors increased happiness by 0.46 and 0.87 points, respectively, compared to those in the public sector. All these variables lost their significance in the second model. In model (2), 'quite likely' fear of losing the job gained significance and reduced happiness by 0.63 points, compared to the category 'very unlikely' (Table 5.6).

[36] Not presented here.

Table 5.6 Estimates of SWB for the Employed, Wave 2

	Life Satisfaction (1)	**Life Satisfaction (2)**	**Happiness (1)**	**Happiness (2)**
Technician/ Junior Professional	-0.089	-0.099	0.256	0.385
	(0.304)	(0.325)	(0.301)	(0.284)
Clerical Support Worker	-0.213	-0.128	-0.167	-0.058
	(0.321)	(0.328)	(0.318)	(0.322)
Service Worker	-0.921**	-0.781**	-0.401	-0.183
	(0.365)	(0.366)	(0.317)	(0.329)
Sales Worker	-0.509	-0.356	-0.283	-0.198
	(0.310)	(0.340)	(0.299)	(0.296)
Skilled Semi-Skilled Worker	-0.618**	-0.322	-0.608**	-0.303
	(0.304)	(0.321)	(0.272)	(0.290)
Unskilled Worker	0.114	0.293	0.106	0.318
	(0.532)	(0.439)	(0.478)	(0.348)
Quite Likely Fear	0.050	-0.170	-0.377	-0.639*
	(0.491)	(0.477)	(0.457)	(0.387)
Neither Likely Neither Unlikely Fear	0.612	0.251	0.178	-0.253
	(0.459)	(0.468)	(0.440)	(0.391)
Quite Unlikely Fear	0.898**	0.503	0.377	-0.071
	(0.454)	(0.453)	(0.428)	(0.374)
Very Unlikely Fear	1.167**	0.942**	0.706	0.325
	(0.455)	(0.456)	(0.438)	(0.377)
Don't Know Fear	0.734	0.223	0.314	-0.225
	(0.599)	(0.609)	(0.544)	(0.514)
Private Sector	0.192	0.074	0.462*	0.191
	(0.248)	(0.234)	(0.238)	(0.222)
Other Sector	0.021	-0.452	0.872***	0.418
	(0.349)	(0.312)	(0.334)	(0.282)
Other Contract	-0.114	-0.113	-0.016	-0.006
	(0.218)	(0.210)	(0.215)	(0.198)
Female		0.132		0.330*
		(0.185)		(0.168)
Age		-0.141**		-0.136**
		(0.069)		(0.066)
$Age^2/100$		0.149*		0.157**
		(0.081)		(0.157)
Divorced/Widowed		-1.005**		-1.495***
		(0.425)		(0.448)
Single		-0.156		-0.434
		(0.351)		(0.339)
Number of Children		0.086		0.000
		(0.152)		(0.125)
Urban		-0.359*		0.027
		(0.189)		(0.163)
Tertiary Education		-0.095		-0.264
		(0.226)		(0.190)
Good Health		-0.537**		-1.085***
		(0.216)		(0.189)
Fair Health		-1.051***		-1.480***
		(0.329)		(0.290)
Bad Health		-2.878***		-3.187***
		(0.655)		(0.495)
Second Quartile Income		0.488		0.434
		(0.369)		(0.314)
Third Quartile Income		0.881**		0.152
		(0.367)		(0.288)
Fourth Quartile Income		0.964***		0.607**
		(0.371)		(0.301)
Income Not Reported		1.228***		0.708**
		(0.356)		(0.276)
Number of Observations	427	427	429	429
Adjusted R^2	0.047	0.176	0.043	0.247

Source: EQLS 2011–2012.

Notes: Excluded categories are: Professional/Managerial, Very Likely Fear, Public Sector, Unlimited Contract, Male, Married, Rural, Secondary Education or Less, Very Good Health and First Income Quartile. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The reason some variables lost their significance in the second model is due to their correlation with other variables, which are included in the full models. Excluding the health and income dummies in a separate regression revealed that partly health and mainly income correlated with some of the job-related characteristics.

An interesting result that emerges is the one concerning the dummy 'income not reported', because it had the largest positive effect on both measures of SWB in Wave 2. A further cross-tabulation of the type of occupation and income reveals that people that did not report their income and those in the highest income quartiles have elements in common. The employed who did not report their income belong somewhere between the third and the fourth quartiles. For example, 22% of those who did not report their income had professional/managerial positions. Also, 33% of the fourth- income quartile and 14% of the third-income quartile consisted of professional/managerial respondents. Somewhat similar results are obtained for other groups, such as clerical support workers, sales workers, and skilled/semi-skilled manual workers.

Additionally, given that the regression model is run using dummy variables, a Wald test (Wald & Wolfowitz, 1944) for joint significance was performed to test whether the coefficients of the dummies are simultaneously different from zero. Taken as a whole, the variables that were significant are: current occupation for happiness in 2007–2008, and job insecurity for both happiness and life satisfaction in 2011–2012 (Table A5.5).

In sum, when socio-economic factors are held constant, the analysis leads to the following results with reference to the different characteristics tied to one's job. Job insecurity (although only some of its categories) was important for life satisfaction in Waves 1 and 2, which aligns with other studies (Origo & Pagani, 2009, Lewchuk et al., 2008). However, the analysis found only one category of job insecurity (quite likely fear) to exert a negative influence on happiness in 2011–2012. Being a service worker has been found to relate negatively to life satisfaction in 2011–2012, corroborating findings from Argyle's (2013) study. For the rest of the occupational

categories, the analysis did not provide evidence for a statistically significant relationship with SWB. Moreover, the results suggested that the SWB benefits of work were not dependent on type of contract or type of sector, consistent with other studies (Booth et al., 2002, De Cuyper & De Witte, 2006, Green & Heywood, 2011, de Graaf-Zijl, 2012).

5.4.2.3. Unemployment-Related Determinants of the SWB of the Unemployed

In this section, the results deriving from the equations (5.2) and (5.3) regarding the association of unemployment-related variable with SWB are discussed. The results help to answer the last research question: 'What are the unemployment-related characteristics associated with the SWB of the unemployed?' Table 5.7 contains the results from Wave 1, showing two models for each SWB measure. The estimates in model (1) are based on regressions of the unemployment-related variables only, and model (2) adds controls for the socio-economic variables.

The results for life satisfaction from model (1) show that all variables of interest were significant in 2007–2008. Specifically, the long-term unemployed reported lower life satisfaction by 1.14 points, relative to those experiencing short-term unemployment. Next, the unemployed who did not receive unemployment benefits and those who did not have a job previously were more satisfied with their lives by 0.85 points, compared to their baseline categories (first model). These results may be due to the fact that most of the people with no previous employment are young (one-third of those who had no jobs in the past are aged 18–24). In addition, the category of no previous employment has a high concentration of married people (57%). This may be related to the fact that the spouses of this group are in employment and therefore the respondent has no need for a job.

In model (2), the effects have changed. No evidence for a relationship between life satisfaction and receipt of benefits or previous employment history was found in the second specification though, likely because the income variables picked up the effects of the unemployment benefits. Yet, the effect of duration of unemployment is still evident, even when the model controls for socio-economic characteristics, although the effect was reduced to 0.82 points (Table 5.7).

Table 5.7 OLS Estimates of SWB for the Unemployed, Wave 1

	Life Satisfaction (1)	**Life Satisfaction (2)**	**Happiness (1)**	**Happiness (2)**
Long-Term Unemployed	-1.146**	-0.826**	-0.783*	-0.422
	(0.485)	(0.404)	(0.422)	(0.388)
No Unemployment Benefits	0.857**	0.318	1.186***	0.902**
	(0.336)	(0.376)	(0.350)	(0.402)
No Previous Employment	0.857***	0.572	0.275	-0.087
	(0.322)	(0.375)	(0.317)	(0.362)
Female		0.121		0.416
		(0.327)		(0.328)
Age		-0.158		-0.175*
		(0.103)		(0.093)
$Age^2/100$		0.176		0.171
		(0.118)		(0.108)
Divorced/Widowed		-0.220		-1.417***
		(0.573)		(0.502)
Single		0.281		-0.890*
		(0.537)		(0.498)
Number of Children		0.248		-0.080
		(0.182)		(0.180)
Urban		-0.376		0.098
		(0.331)		(0.315)
Tertiary Education		-0.051		0.521
		(0.577)		(0.423)
Good Health		-0.420		0.136
		(0.447)		(0.401)
Fair Health		-0.745		-0.551
		(0.484)		(0.445)
Bad Health		-1.232*		-1.566***
		(0.631)		(0.600)
Second Quartile Income		1.529***		1.308***
		(0.444)		(0.488)
Third Quartile Income		1.328***		0.913**
		(0.492)		(0.436)
Fourth Quartile Income		2.899***		1.315**
		(0.709)		(0.659)
Income Not Reported		1.452***		0.507
		(0.448)		(0.454)
Number of Observations	223	223	218	218
Adjusted R^2	0.070	0.199	0.065	0.231

Source: EQLS 2007–2008.

Notes: Excluded categories are: Short-Term Unemployed, Receive Unemployment Benefits, Yes Previous Employment, Male, Married, Rural, Secondary Education or Less, Very Good Health and First Income Quartile. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Turning to happiness of the unemployed in Wave 1, from model (1), long-term unemployed were less happy by 0.78 points, while those who do not receive benefits were

happier than their reference groups by 1.18 points. Once all the controls are added to the model, only the receipt of unemployment benefits has retained its significance. The unemployed who did not receive benefits were by 0.90 points less happy, relative to those received unemployment benefits (Table 5.7). It is noteworthy that the fourth income quartile made people almost three times more satisfied with their lives, which may suggest the presence of 'wealthy' unemployed, although there are only eighteen observations in this group. In addition, the raw mean of life satisfaction for those in the first income quartile is 3.8, compared to 6.3 for those in the fourth quartile, in additional results not reported here

Looking now at Table 5.8, the results suggest that not receiving unemployment benefits was the only factor from the unemployment-related variables that had a statistically significant effect on increasing life satisfaction in Wave 2 (first model). The significance is also maintained in the second model. Specifically, unemployed respondents without unemployment benefits reported higher life satisfaction by 0.84 points, compared to unemployed who receive them.

None of the findings for the unemployment-related variables held for happiness of the unemployed in Wave 2. While it may appear that the unemployment-related variables did not influence happiness, it is also possible that the insignificant coefficients attached to those variables were the result of a relatively smaller sample size. Other characteristics associated with suffering more from unemployment appeared to be low income and bad health conditions. The effect of income was especially strong. For example, being in a higher income quartile had a very strong effect on life satisfaction of the unemployed, showing them to be more than two points (third and fourth income quartiles) more satisfied with their lives (Table 5.8.).

The results also suggest that in 2011–2012, happiness of females was less affected by unemployment compared to that of males (unemployed women score higher by 0.68 points). These results are in line with earlier studies by Korpi (1997), Docekry (2003) and Blanchflower and Oswald (2004a). This also seems to apply to the Macedonian context, a traditional society

and characterised by a well-established male work culture where men are the main providers of financial support for the family (Knabe et al., 2010).[37] In addition, 65% of the unemployed in the fourth income quartile are women, which may imply that they are voluntarily unemployed.

Table 5.8 OLS Estimates of SWB for the Unemployed, Wave 2

	Life Satisfaction (1)	**Life Satisfaction (2)**	**Happiness (1)**	**Happiness (2)**
Long-Term Unemployed	-0.706	0.018	-0.697	-0.168
	(0.550)	(0.470)	(0.539)	(0.387)
No Unemployment Benefits	1.082**	0.841*	0.204	-0.177
	(0.442)	(0.503)	(0.446)	(0.414)
No Previous Employment	0.722	-0.168	0.545	-0.310
	(0.448)	(0.421)	(0.382)	(0.363)
Female		0.512		0.686**
		(0.376)		(0.284)
Age		-0.068		-0.031
		(0.113)		(0.097)
$Age^2/100$		0.061		0.033
		(0.125)		(0.105)
Divorced/Widowed		0.530		0.255
		(0.935)		(0.685)
Single		0.375		-0.231
		(0.733)		(0.647)
Number of Children		0.207		0.066
		(0.209)		(0.194)
Urban		-0.347		0.169
		(0.378)		(0.300)
Tertiary Education		0.393		0.024
		(0.528)		(0.424)
Good Health		0.910*		-0.512
		(0.500)		(0.390)
Fair Health		-1.193**		-3.191***
		(0.562)		(0.431)
Bad Health		-1.221*		-3.460***
		(0.675)		(0.530)
Second Quartile Income		0.626		0.139
		(0.533)		(0.428)
Third Quartile Income		2.270***		1.191**
		(0.637)		(0.514)
Fourth Quartile Income		2.041**		1.477***
		(0.972)		(0.497)
Income Not Reported		1.799***		1.009***
		(0.482)		(0.376)
Number of Observations	160	159	160	159
Adjusted R^2	0.034	0.244	0.002	0.425

Source: EQLS 2011–2012.

Notes: Excluded categories are: Short-Term Unemployed, Receive Unemployment Benefits, Yes Previous Employment, Male, Married, Rural, Secondary Education or Less, Very Good Health and First Income Quartile. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

To summarise the main effects, the analysis found a relationship between SWB and the length of unemployment and life satisfaction in Wave 1. There was a statistically significant relationship between the receipt of unemployment benefits and happiness in Wave 1, and life

[37]For these reasons, unemployment among men involves higher psychological distress and less SWB, compared to unemployed females. On the other hand, women may fill their everyday lives with family duties, household chores and may not suffer from reduction in their social life (Artazcoz et al., 2004).

satisfaction in Wave 2. Past employment history appeared largely unrelated to SWB in Macedonia, similar to Korpi's (1997) study findings. The findings regarding the duration of unemployment are in line with Krueger and Mueller (2011) and Blackaby et al. (2012). Furthermore, the SWB of the long-term unemployed was expected to be lower, as the stage theory suggests that the psychological state of the unemployment worsens with the passage of time.

The finding that unemployment-benefits recipients were worse off when it comes to happiness in Wave 1; and life satisfaction in Wave 2 are consistent with the findings of other transition countries (Habibov & Afandi, 2009, Litchfield et al., 2012). In the case of Macedonia, there seems to be a further important underlying explanation, namely, that benefits in Macedonia are conditional upon certain requirements and tied to the financial situation of the individual. Hence, only the unemployed who have a sufficient record of contributions from work are entitled to unemployment benefits (Mojsoska-Blazevski, 2009).[38] This is further supported by the result from the cross-tabulation (not reported here) where only 1% of those in the highest income quartile are unemployment-benefits recipients, compared to the 32% of those in the lowest income quartile who receive benefits. In addition, 16% of the unemployed who did not report their income said they receive unemployment benefits, creating the assumption that they are not willing to report income because their financial situation is related to their eligibility for benefits.

[38]The amount is determined on the basis of the average monthly net salary (in the last two years) and it is 50% of that amount for the first twelve months of unemployment. If the unemployed are entitled for benefits longer than a year, then the amount is 40% of the average monthly salary. The duration depends on the length of the previous working history (Ministry of Labour and Social Policy, 2016).

5.5. A Closer Examination of the Increase in SWB from Wave 1 to Wave 2

Thus far, the analysis has focused on the determinants of SWB. However, the descriptive statistics, as well as Chapter 4, provided empirical evidence for the increased levels of life satisfaction and happiness in 2011–2012. The SWB increase did not happen only for the overall sample, but also for all the sub-groups, when the sample was segregated according to people's labour-activity features or unemployment-related traits. This is in line with the SWB trends reported in EQLS and World Happiness Reports. However, the findings derive from data that is not panel. Therefore, one must cautiously draw conclusions, because a direct comparison of the two waves may not be entirely appropriate, since the respondents in Wave 2 may differ along several characteristics unknown to us.

The nature of the cross-sectional data does not provide the possibility of using a fixed-effects approach to measure potential errors in reported SWB. Results regarding the changes over time, obtained from cross-sectional data, may be overestimated, and the increase may be due to unobservable psychological characteristics of the respondents. Therefore, the positive trends in SWB will be the main focus of the rest of the analysis in this chapter, in order to advance understanding of the SWB increase in Macedonia.

5.5.1. Statistical Matching

One possible way of addressing the data limitation described in the previous section is to use matching, a statistical technique that allows examination of the effect of a treatment on the outcome by pairing treated and nontreated individuals based on their similarities in an observational study or quasi-experiment (Blundell & Costa Dias, 2000). The goal of matching for the purpose of this analysis is a selection of a sample of individuals from Wave 1 who are

similar to those in Wave 2, in terms of observable characteristics. This enables us to test whether the improvement in SWB in 2011–2012 is still present if similar respondents are compared.

When the comparison of individuals is based on numerous characteristics, finding similar individuals is a complicated task. Here, propensity score becomes helpful as it produces a single score based on all relevant characteristics. It is semi-parametric and controls for observable characteristics, and an assumption for the outcome equation or the error term is not needed (Nikolova & Graham, 2014).

The propensity score is derived using the probability of reporting higher SWB, conditional on a set of characteristics (i.e. socio-economic background as well as other features linked to people's employment or unemployment status). Propensity scores balance such observable characteristics of the 'treated' group, consisting of the individuals from Wave 2, and the 'control' group, the individuals from Wave 1, and improves the approximation of the counterfactual for the 'treated' group. Propensity scores may also balance unobservable characteristics to the degree that they are related to the matching variables (Stuart, 2010).

The matching is a two-stage procedure. Here, the steps described by Garrido et al. (2014) are followed. Firstly, individuals from Wave 1 are paired with individuals from Wave 2 according to their conditional probability of having higher SWB, given their 'pre-treatment' characteristics—their propensity scores $P(X_i)$. Within the cells that are defined by the 'pre-treatment' characteristics (X_i), the assignment to the treatment (W) is random.

$$\big(P(X_i) \equiv Pr(W = 1|X)\big) \tag{5.4}$$

Propensity scores are calculated using a probit model:

$$W_i = a + \beta^w X_i + u_i \tag{5.5}$$

where $W = 1$ if the respondent is in the treated group and 0 when a member is from the untreated group; X_i is a vector of covariates used for the matching. The matching estimator assumes the following (Nikolova & Graham, 2014):

1. Un-confoundedness for controls

$$Y(0) \coprod W|X \tag{5.6}$$

The assumption for un-confoundedness for controls is that all major differences between the respondents from Waves 1 and 2 are captured in the variables on which individuals are matched. All other differences in SWB are due to wave. Basically, levels of SWB are independent of the wave, for the set of observable characteristics. Even though this assumption cannot be tested directly (Nikolova & Graham, 2014), the Rosenbaum approach used in the robustness section (5.5.1.3.) checks the extent to which the estimated results depend on this assumption (Becker & Caliendo, 2007).

2. Weak overlap/common support

$$(P(W = 1|X) < 1) \tag{5.7}$$

Subsequent to the calculation of the propensity score is the check of the overlap (or 'common support') in the range of propensity scores across the treated and the control groups. This condition implies that individuals with the same characteristics have a positive probability of being in any of the waves. It also assumes a substantial overlap in the two covariate distributions from Waves 1 and 2 to find suitable matches (Heinrich et al., 2010).

The second step is a selection of the matching method. For the purpose of this chapter, kernel matching or kernel weight is used, because it provides high accuracy as it maintains the sample size, while it reduces the bias as it assigns greater weight to better matches (Garrido et al., 2014).[39] The bias refers to distance of estimated effect of Wave 2 from the actual effect. A weight of one is given to each treated individual to estimate the counterfactual outcome by weighting information from the respondents in the control group (Caliendo & Kopeinig, 2008). A weighted composite of control observations is used to create a match for each treated individual, where control individuals are weighted by their distance in the propensity score from

[39] It produced the lowest sample losses compared to the nearest neighbour and radius matching.

treated individuals of the propensity score. Kernel matching assigns higher weights to untreated individuals who have closer propensity scores to the treated individuals. Only observations outside the range of common support are left out (Garrido et al., 2014).

Finally, the average treatment effects on the treated (ATT) is the estimated expected difference between the outcome of the groups of respondents with the same propensity scores, where one group is treated *($W_i=1$)* and the other is controls ($W_i=0$).

$$ATT \equiv E(Y_{i1} - Y_{i0}|W_{i=1}) = E\big(EY_{i1} - Y_{i0}|W_{i=1}, P(X_i)\big)$$

$$= E\big(E\big(Y_{i1}|W_{i=1}, P(X_i)\big) - E\big(Y_{i0}|W_i = 0, P(X_i)\big)|W_i = 1\big) \quad (5.8)$$

where Y_{i1} and Y_{i0} are the potential outcomes from treatment and control. In this way, ATT shows the average effect of Wave 2 on SWB.

5.5.1.1. Results

By using the matching method, individuals from both waves are paired with each other with regard to several observable characteristics, in order to account for individual heterogeneity when making a comparison of SWB levels across the two waves. However, the matching is as correct as the covariates on which the matching is based. The choice of the correct observable characteristics is relevant for the accuracy of the counterfactual effect (Heckman et al., 1997). A probit model is estimated with wave being a dependent variable and all potential confounders being explanatory variables. Initially, the matching was done based on all variables related to the treatment (wave) as well as with the outcome variable (life satisfaction and happiness).[40]

As some of the initially included variables did not meet the balancing property, they were excluded (Leuven & Sianesi, 2018). The balancing property means that the propensity scores

[40] This is because an inclusion of explanatory variable related only to the treatment will not reduce confounding (Austin, 2011), but the inclusion of potentially related variables with the outcome will reduce bias in the treatment effect; thus, it is recommended when there is sufficient size of the dataset (Garrido et al., 2014).

have similar distribution and the produced matches contain observably similar covariates, so that the estimated effect of Wave 2 is true. The final variables used for the matching are those that met the balancing property in each case. The ones used for the employed can be found in Tables 5.9 and 5.10, while for the unemployed are in Tables 5.12 and 5.13.

After the matching was done, the satisfaction of the balancing property was checked by using several balancing tests. The results referring to the employed are presented in Tables 5.9 and 5.10, while the results concerning the unemployed can be found in Tables 5.12 and 5.13. First, in order to check balance of an individual covariate, t-tests for equality of means in the two samples, treated and control groups, are performed. The results are nonsignificant (as seen in the p-values), showing that the mean value of each variable is the same in the treated and control groups. The minimum mean bias for the employed for life satisfaction was 1.5 with a maximum of 7.6 (Table 5.9). For happiness, the bias for the employed was 0.3 to maximum 4.4 (Table 5.11). With regard to the unemployed, the mean bias for life satisfaction varies from 0.3 to 5.6 (Table 5.10) and from 0.0 to 4.5 for happiness (Table 5.11).

Second, the standardised bias is calculated to check whether the distribution of the propensity scores is similar across the samples. It refers to the differences of the sample means in the treated and control samples, divided by the square root of the mean of the sample variance in both groups. The tables show that the propensity scores diminished the differences in means of the groups.

Third, the average bias is a summary indicator of the distribution of the bias and assesses the comparability of the two groups in the matched sample. The average bias was reduced, indicating that the starting unbalancing is considerably reduced after the matching. For example, it was reduced from 20.5 to 3.4 for life satisfaction and from 22.6 to 2.2 for happiness among the employed. For the unemployed, the average bias was decreased to 2.2 compared to the initial 22.0 for life satisfaction. In terms of happiness, this bias was diminished from 20.3 to 1.4.

Table 5.9 Balancing Tests from Matching: Employed from Wave 2 vs. Employed from Wave 1 for Life Satisfaction

Life Satisfaction - Control Group: Employed from Wave 1					
	Treatment	**Control**	**Standardised Bias**	**t-stat**	**p-value**
Divorced/Widowed	0.060	0.056	1.9	0.26	0.797
Number of Children	1.347	1.367	-2.0	0.29	0.775
Tertiary	0.391	0.424	-7.6	0.99	0.325
Good Health	0.352	0.371	-3.9	0.56	0.575
Fair Health	0.130	0.121	2.4	0.41	0.683
Bad Health	0.019	0.015	2.6	0.43	0.668
Third Quartile Income	0.198	0.179	4.4	0.69	0.489
Income Not Reported	0.231	0.21	5.8	0.73	0.468
Technician/Junior Professional	0.089	0.097	-2.8	0.41	0.680
Service Worker	0.123	0.103	6.2	0.92	0.360
Skilled Semi-Skilled Worker	0.185	0.195	-2.1	0.33	0.738
Very Unlikely Fear	0.26	0.272	-2.7	0.39	0.699
Private Sector	0.577	0.558	3.8	0.54	0.586
Other Sector	0.137	0.142	-1.5	0.21	0.835
Other Contract	0.304	0.296	1.6	0.24	0.814
Mean bias		Before	20.5		
		After	3.4		
Pseudo R^2		Before	0.159		
		After	0.004		
p>Chi^2		Before	0.000		
		After	0.997		

Sources: EQLS 2007–2008 and 2011–2012.

Note: Only variables satisfying the balancing property have been used in the estimated models.

Table 5.10 Balancing Tests from Matching: Unemployed from Wave 2 vs. Unemployed from Wave 1 for Life Satisfaction

Life Satisfaction - Control Group: Unemployed from Wave 1					
	Treatment	**Control**	**Standardised Bias**	**t-stat**	**p-value**
Divorced/Widowed	0.037	0.035	0.9	0.11	0.915
Tertiary	0.162	0.154	2.4	0.19	0.851
Good Health	0.268	0.276	-1.6	0.15	0.881
Fair Health	0.212	0.221	-2.1	0.19	0.847
Bad Health	0.056	0.062	-2.2	0.24	0.808
Second Quartile Income	0.143	0.131	3.4	0.32	0.746
Third Quartile Income	0.081	0.063	5.6	0.61	0.541
Fourth Quartile Income	0.031	0.029	0.6	0.07	0.946
Income Not Reported	0.356	0.631	-1.2	0.10	0.924
Long-term Unemployed	0.850	0.835	4.0	0.36	0.716
No Unemployment Benefits	0.825	0.826	-0.3	0.03	0.974
Mean bias		Before	22.0		
		After	2.2		
Pseudo R^2		Before	0.111		
		After	0.002		
p>Chi²		Before	0.000		
		After	1.000		

Sources: EQLS 2007–2008 and 2011–2012.

Note: Only variables satisfying the balancing property have been used in the estimated models.

These decreasing trends indicate that the matching procedures produced better balance over time. It would be misleading to assume though, that the entire bias will disappear with the matching. Complete bias reduction could happen if there were correct information about the right variables that influence the probability of having higher SWB (Steiner et al., 2010). However, this is restricted by the sample size, the availability of information in the data used, as well as not knowing what could contribute to the selection process. For this reason, it is important to note that the results are free of selection bias to the extent of the variables used. The aim is to find as many comparable individuals as possible, based on their observable characteristics, and not to entirely capture the selection (Steiner et al., 2010).

Table 5.11 Balancing Tests from Matching: Employed from Wave 2 vs. Employed from Wave 1 for Happiness

Happiness - Control Group: The Employed from Wave 1					
	Treatment	**Control**	**Standardised Bias**	**t-stat**	**p-value**
Female	0.427	0.418	2.0	0.27	0.787
Divorced/Widowed	0.061	0.066	-2.3	-0.31	0.760
Number of Children	1.342	1.357	-1.5	-0.21	0.836
Tertiary	0.408	0.413	-1.1	-0.14	0.885
Good Health	0.345	0.347	-0.3	-0.07	0.945
Fair Health	0.126	0.124	0.5	0.12	0.907
Bad Health	0.018	0.016	1.5	0.24	0.812
Fourth Quartile Income	0.269	0.289	-4.4	-0.65	0.517
Income Not Reported	0.248	0.258	-2.8	-0.34	0.736
Technician/Junior Professional	0.086	0.097	-3.5	0.53	0.598
Skilled Semi-Skilled Worker	0.183	0.187	-1.0	-0.18	0.860
Private Sector	0.577	0.561	3.2	0.46	0.648
Other Sector	0.143	0.128	4.3	0.60	0.546
Mean bias		Before	22.6		
		After	2.2		
Pseudo R^2		Before	0.160		
		After	0.002		
p>Chi^2		Before	0.000		
		After	0.999		

Sources: EQLS 2007–2008 and 2011–2012.

Note: Only variables satisfying the balancing property have been used in the estimated models.

Table 5.12 Balancing Tests from Matching Unemployed from Wave 2 vs. Unemployed from Wave 1 for Happiness

Happiness - Control Group: Unemployed from Wave 1					
	Treatment	**Control**	**Standardised Bias**	**t-stat**	**p-value**
Age	41.509	40.931	4.5	0.39	0.693
Divorced/Widowed	0.037	0.041	-1.6	0.18	0.856
Single	0.276	0.286	-2.2	0.19	0.851
Good Health	0.270	0.273	-0.6	0.06	0.953
Fair Health	0.213	0.203	2.3	0.22	0.823
Bad Health	0.056	0.053	1.2	0.13	0.895
Second Quartile Income	0.144	0.148	-1.0	0.09	0.929
Third Quartile Income	0.081	0.089	-2.4	0.24	0.807
Fourth Quartile Income	0.031	0.032	-0.3	0.03	0.977
Income Not Reported	0.352	0.354	-0.6	0.05	0.960
Long-term Unemployed	0.849	0.849	0.0	0.00	0.999
No Unemployment Benefits	0.823	0.824	-0.1	0.01	0.995
Mean bias		Before	20.3		
		After	1.4		
Pseudo R^2		Before	0.133		
		After	0.001		
p>Chi^2		Before	0.000		
		After	1.000		

Sources: EQLS 2007–2008 and 2011–2012.

Note: Only variables satisfying the balancing property have been used in the estimated models.

Finally, Table 5.13 reports the unequivocal differences in life satisfaction and happiness between the employed from Wave 2 and their counterparts from Wave 1, who are similar in terms of the above-listed variables used for matching. After the matching, the SWB gap in favour of the respondents from the Wave 2 was adjusted downwards. The results show that the employed from Wave 2 were more satisfied with their lives by 0.607 points, while being happier by 0.458 points. Based on the results from Table 5.14, the unemployed from Wave 2 reported life satisfaction approximately 1.344 points higher than their counterparts from Wave 1. The estimated happiness gain for the unemployed in Wave 2 was smaller, but still relatively high (0.889). The t-test for these results is high, indicating the statistical significance of the calculated ATT.

Table 5.13 Average Treatment Effect from Propensity Score Matching: Employed from Wave 2 vs. Employed from Wave 1

Control Group: the Employed from Wave 1							
	N	N	Average Outcome	Average Outcome	ATT	S.E.	t-stat
Outcome	Treatment	Control	Treatment	Control			
Life Satisfaction	349	414	6.9	6.3	0.607	0.150	2.98
Happiness	426	340	7.5	7.1	0.458	0.198	2.31

Sources: EQLS 2007–2008 and 2011–2012.

Note: Kernel method used.

Table 5.14 Average Treatment Effect from Propensity Score Matching: Unemployed from Wave 2 vs. Unemployed from Wave 1

Control Group: Unemployed from Wave 1							
	N	N	Average Outcome	Average Outcome	ATT	S.E.	t-stat
Outcome	Treatment	Control	Treatment	Control			
Life Satisfaction	160	223	5.7	4.3	1.344	0.3	4.45
Happiness	159	218	6.5	5.7	0.889	0.3	2.96

Sources: EQLS 2007–2008 and 2011–2012.

Note: Kernel method used.

5.5.1.2. Robustness of the Matching

Two checks were performed to test the robustness of the matching in terms of the observable characteristics of the respondents. First, pseudo-R^2 has been calculated before and after the matching, based on the probit regressions that calculate the propensity score. Pseudo-R^2 refers to the degree to which the matching covariates explain the conditional treatment probability (Holford, 2017) or the probability of having higher SWB. The results before the matching are between 0.160 and 0.111 for both the employed and unemployed. However, when those values are calculated later on the matched samples, then the pseudo-R^2 is as small as 0.001 and not higher than 0.004. This suggests no systematic differences in the distribution of the matching variables between the treated and the control group (Tables 5.9, 5.10, 5.11, and 5.12).

Moreover, the Chi^2 tests are the likelihood-ratio test of the joint insignificance, which measures the distribution of the samples. The results before matching were significant and thus

rejects the null hypothesis of balance of all the variables used for the matching. However, after the matching, the results are insignificant, showing that the observed distribution fits the expected distribution if the variables were independent. The observable characteristics or the covariates on which the matching was done were jointly significant before the matching with a p-value of 0.000 in all cases. After the matching, however, the covariates were not any longer jointly significant, since p takes the value of 1 or very close to 1 for all the samples (Tables 5.9, 5.10, 5.12, and 5.13).

These results confirm that the goal of eliminating the differences in observable characteristics between the treated and the control sample was achieved. While not much can be said on selection on unobservable traits using the statistical propensity matching, the next section provides some reassurance that such unobservable characteristics are not the main mechanism behind the existing patterns.

5.5.1.3. Sensitivity Analysis for Hidden Bias

The previous section showed that the matching has eradicated the differences in observable characteristics between the individuals from Waves 1 and 2. However, it is possible that two similar individuals (in regard to X characteristics) may differ in the chance of assignment to treatment if an unobserved variable that affects the treatment simultaneously is related to the outcome (DiPrete & Gangl, 2004). In this context, the results may be sensitive in the presence of unobserved heterogeneity (hidden bias) between the treated and control groups.

To account for such concerns and further assess the quality of the matching, a Rosenbaum sensitivity analysis is performed, following the example of Keele (2010). It checks whether the matching estimates are sensitive to the deviation from the un-confoundedness assumption. If in the sample there were a positive unobserved selection, in the sense that people who were

interviewed in Wave 2 also had higher probability of reporting higher SWB, even if they were in Wave 1, the true effect of Wave 2 on SWB would have been overestimated.

Table A5.8 gives the results from the p-value from the Wilcoxon sign-rank test for ATT by defining the level of such hidden bias to certain values of Γ. Γ refers to the assumption of the unobserved heterogeneity that is indicated in regard to the odds ratio of the various selection into treatment due to an unobserved variable (DiPrete & Gangl, 2004). This sensitive parameter Γ calculates the degree of shifting away from the analysis that is hidden bias-free (Keele, 2010). At a value of Γ = 1, the odds for selection to treatment are the same and no hidden bias is evident. The series of values of Γ here are set up to 1.5 with increments of 0.1, since those are suitable for analysis in the social sciences (Keele, 2010).

In essence, the results show by how much an additional unobserved characteristic would increase the odds of receiving the treatment, for an estimate that is significant to become insignificant at the 10% significance level. For instance, such an unobserved variable, positively correlated with increased SWB and inducing a positive bias, would need to increase the conditional odds of assignment into being in Wave 2 over Wave 1 by 10%, before a definite conclusion about the improvements in SWB is made.[41] The p-critical calculated for each differential value of Γ reflects the bound on the significance level of the effect of Wave 2, in the case of presence of unobserved characteristics that contribute to the treatment status. By doing so, one can evaluate the strength that an unobserved variable would be need to have so that the estimated SWB would have been higher solely due to a selection effect. The aim is to obtain the value of Γ at which p-value indicates nonsignificance (Liu et al., 2013).

The results show the extent to which the selection into Wave 2 is subject to bias that challenges the results from the matching. The evaluated impact of Wave 2 is robust to hidden bias, although the robustness varies across both dependent variables and both distinct groups on

[41] Since the increment is set up to be 0.1.

the labour market. When it comes to life satisfaction of the employed and unemployed and happiness of the unemployed, the results suggest that the analysis is insensitive to a bias that would increase the odds of treatment. This confirms the findings that Wave 2 increased life satisfaction of the employed and life satisfaction and happiness of unemployed are only robust to the setup level of $\Gamma = 1.5$ at 10% significance level. The finding of a positive effect of Wave 2 on happiness of the employed is less robust to the possible existence of hidden bias. Between the critical values of $\Gamma = 1.1$ and $\Gamma = 1.2$, the conclusion of a positive association of happiness and Wave 2 based on matching would be questioned, since it is no longer significant. It means that in the model of happiness of the employed, it would require a hidden bias between $\Gamma = 1.1$ and $\Gamma = 1.2$ to alter the conclusion of the positive effects of Wave 2.

The findings where the p-value surpassed the 0.10 threshold do not mean that Wave 2 has no true effect on happiness of the employed. What it does show is how large the influence of a variable must be to undermine the findings from the matching analysis. More specifically, an unobserved confounder would need to lead to a 1.1-fold increase in the odds of being in Wave 2 in order to explain away the relationship between wave and increased SWB.

5.5.2. Blinder-Oaxaca Decompositions

As an alternative way of examining the increase of SWB in 2011–2012, Blinder-Oaxaca decomposition is also used. Such decomposition, although widely applied to examine the differential in wage gaps between groups from different races, genders or religions, has not been used with regard to SWB. However, it can be also employed in any other studies where the dependent variables are continuous and differences in the mean values exist (Jann, 2008). The Blinder-Oaxaca method is used as a counterfactual technique to explain the gap in means of life satisfaction and happiness in Macedonia, between the two years. Assuming that Y (life

satisfaction or happiness) is a function of a set of variables, then the SWB of individuals is given by:

$$Y_{iw} = X_{iw}\beta_w + \varepsilon_{iw} \tag{5.9}$$

where the subscripts i and w reflect an individual and wave respectively; X is a vector of the job-related (for the employed), or unemployment-related explanatory variables (for the unemployed) and the socio-economic characteristics; β is a set of coefficients to be estimated and ε_{iw} are the error terms. Given that SWB was higher in Wave 2, the average SWB differential between the groups of respondents from the two waves is represented as follows:

$$\bar{Y}_{i2} - \bar{Y}_{i1} = \bar{X}_{i2}\hat{\beta}_2 - \bar{X}_{i1}\hat{\beta}_1 \tag{5.10}$$

where the 1 and 2 subscripts represent the groups of respondents from Wave 1 and Wave 2, respectively.

In order to decompose the SWB differential into different parts, one should choose which set of coefficients to use. Assigning a weight of one to a particular group (Blinder, 1973, Oaxaca, 1973), or using the average coefficients over both groups (Reimers, 1983), or giving a weight to the coefficients based on the proportion of the sample (Cotton, 1988) are proposed weightings for the differences in the coefficients. This section follows the strategy of Neumark (1988) and Oaxaca and Ransom (1994), who suggest using a weighting matrix Ω, where the coefficients from a pooled regression over both groups are used as the reference coefficients:

$$\Omega = (X'_2X_2 + X'_1X_1)^{-1}X'_2X_2 \tag{5.11}$$

The pooling approach assumes that the respondents are from the same wave and only differ with regard to the rest of their observable characteristics used in the regressions. To distinguish between explained and unexplained parts of the SWB increase, we have:

$$\bar{Y}_{i2} - \bar{Y}_{i1} = \hat{\beta}_2\,\bar{X}_{i2} - \hat{\beta}_1\,\bar{X}_{i1} \tag{5.12}$$

By adding and subtracting $\hat{\beta}_2\,\bar{X}_{i1}$ we get:

$$\bar{Y}_{i2} - \bar{Y}_{i1} = \left(\hat{\beta}_2\,\bar{X}_{i2} - \hat{\beta}_2\,\bar{X}_{i1}\right) + \left(\hat{\beta}_2\,\bar{X}_{i1} - \hat{\beta}_1\,\bar{X}_{i1}\right) \tag{5.13}$$

$$\overline{Y}_{i2} - \overline{Y}_{i1} = \hat{\beta}_2 (\overline{X}_{i2} - \overline{X}_{i1}) + \overline{X}_{i1}(\hat{\beta}_2 - \hat{\beta}_1) \quad (5.14)$$

Based on the regression model in a counterfactual manner, the SWB gap between the two years is decomposed into two parts. The first is called 'characteristic effect' and refers to differences in the mean of *Xs*, which are the variables used in the models that explain SWB (e.g. education, health, income). The second part is called 'residual' or 'coefficient effect' and indicates how much of the mean outcome SWB gap is due to differences in the $\hat{\beta}$s (Jann, 2008). This is also called the unexplained differential and relates to a range of unobserved factors or possible observed traits that influence SWB but are not included in the model.

The results are shown in Table 5.15. The use of Blinder-Oaxaca decomposition has adjusted the SWB differences between Wave 2 and Wave 1 downward, as a result of respondents' differences in observable characteristics. Still, the majority of the SWB gap could not be explained by the differences in the characteristics between the respondents from Waves 2 and 1. About one-fourth of the increased life satisfaction of the employed was due to group differences in observable characteristics, while the residual part (0.893) could not be accounted for by such differences in life satisfaction determinants. Both results were statistically significant. When it comes to happiness, the statistically significant results suggest that less than half of the differences could be attributed to differences in observable characteristics, and the remainder of the increase was due to something else. In terms of the unemployed, about 90% of the increase in life satisfaction and two-thirds of the improvement in happiness could not be elucidated by the variables used in the models. The results were statistically significant.

Table 5.15 Decomposing the Increase in SWB between Wave 1 and 2

		Change	Characteristics $\hat{\beta}_2(\bar{X}_{i2} - \bar{X}_{i1})$	Coefficients $\bar{X}_{i1}(\hat{\beta}_{2-}\hat{\beta}_1)$
Employed	Life Satisfaction	1.266***	0.373***	0.893***
		(0.151)	(0.099)	(0.157)
	Happiness	0.865***	0.402***	0.462**
		(0.143)	(0.097)	(0.142)
Unemployed	Life Satisfaction	1.646***	0.173	1.472***
		(0.254)	(0.172)	(0.235)
	Happiness	1.170***	0.403**	0.767***
		(0.240)	(0.169)	(0.219)

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Decompositions based on models used in full specifications estimated in Tables 5.5-5.8. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Focusing on the additional results, calculated as a part of the same method from the detailed decompositions in Table 5.16, one can see how much each variable contributes to the overall explained increase in SWB. However, this cannot be calculated for the unexplained part. The conclusion is that health was the most important factor in explaining the SWB gap between the groups. More specifically, when it comes to the employed, improved health explained about one-third of the increase in life satisfaction and about 80% of the gap in happiness. In addition, the variable current occupation had the second largest explaining power of about 35% and 20% of life satisfaction and happiness, respectively.

With regard to the unemployed, differences in life satisfaction and happiness were 86% and 74% respectively, due to health. It is interesting, although hard to explain why this may have happened, bearing in mind that health here is a self-reported measure. It may be argued that people's perception of their health conditions has changed, or there could be a demographic change as healthier respondents were more numerous in the survey in 2011–2012. Indeed, the results from the cross-tabulation of the variable health and wave show that the concentration of the unemployed in the very-good category has doubled, while the share of employed increased by one-fifth. In contrast, the number of people in the rest of the categories (which are worse off compared to 'very good health') declined in 2011–2012. The share of the variable past-

employment history is fairly large (42%), although negative, which means that there are fewer people with no previous employment. The analysis showed that people with no previous employment tend to report higher SWB, which means that this variable has 'decreased' the SWB improvement. Thus, SWB could have been even larger if the previous employment history had not favoured the unemployed from Wave 1 (Table 5.16). The next section provides a possible explanation, discussing progress in the labour market in Macedonia between 2007 and 2012.

Table 5.16 SWB Increase: Detailed Decomposition Results

Characteristics (%)	Employed		Unemployed	
	Life Satisfaction	Happiness	Life Satisfaction	Happiness
Total amount of the explained part	29.5	46.5	10.5	34.4
Female	0.6	2.7	-3.6	-3.4
Age + Age^2/100	1.5	0.8	-8.6	-7.5
Marital Status	-4.2	-11.9	12.2	13.6
Number of Children	-1.4	0.0	-12.4	-1.3
Urban	-0.5	0.5	15.2	-4.3
Tertiary Education	-11.4	-17.6	16.0	8.6
Health	65.9	79.5	86.4	71.7
Income	16.4	15.7	19.9	2.6
Current Occupation	29.3	25.3		
Fear of Losing Job	-0.1	0.5		
Type Sector	-1.9	1.1		
Other Contract	5.9	3.6		
Long-Term Unemployed			-10.5	-2.9
No Unemployment Benefits			28.4	13.1
No Previous Employment			-42.7	9.8

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Detailed decompositions of the explained part based on models used in full specifications estimated in Tables 5.5-5.8.

5.6. Discussion

The chapter empirically examines a wide range of variables related to the individual's employment status, and the OLS analysis yielded only some statistically significant results for the main variables of interest, after controlling for socio-economic variables. Considering the

relatively small sample size of some groups, the findings come as no complete surprise. That said, most of the findings from the socio-economic factors show a familiar pattern. That is, income and health are the most prominent determinants affecting SWB of both the employed and the unemployed.

The results obtained regarding job insecurity have been confirmed in other studies (Hellgren et al., 1999, Burchell, 2011, De Neve & Ward, 2017); thus, it is not surprising that it is one of the main drivers that reduced SWB of the employed in the case of Macedonia, given the labour-market context. The weak labour-market conditions seem to increase concerns of becoming unemployed; thus, SWB in Macedonia declined, as the employed are concerned about their job security.

With regard to the unemployed, the results concerning the relationship between SWB and duration of unemployment are consistent with the literature (Krueger & Mueller, 2011, Blackaby et al., 2012). Long-term unemployment influences SWB in a negative way. Thus, the large proportion of long-term unemployed in Macedonia leads to a worrying result. The results also indicate that the receipt of unemployment benefits depressed SWB as in other transition countries (Habibov & Afandi, 2009, Litchfield et al., 2012). It is likely that this group of unemployed in Macedonia had lower SWB, unconditional on the receipt of unemployment benefits. This is because the unemployed qualify for unemployment benefits if their financial situation is poor, which makes it hard to disentangle from all other conditions that may influence the perception of their lives. Alternatively, Litchfield et al. (2012) explain this by the negative psychological impact that the reliance on social transfers has on people.

Turning attention to the increase of SWB, the estimated values of ATT (from the kernel matching) are very similar to the ones from the second portion (unexplained part) of the Blinder-Oaxaca decomposition. The reason why they differ to a very small extent is that for the matching, only the variables that met the balancing property were used, while for Blinder-

Oaxaca decomposition, all the variables from the full OLS models were included. Nevertheless, both techniques reveal that considerable size of the increase of both indicators of SWB in Macedonia is not due to differences in observable characteristics between the respondents from Waves 1 and 2, and thus it remains unexplained.

Such findings beg the question, 'What could have contributed to the increased SWB that cannot be explained with the differences in respondents' characteristics?' A conclusive answer is beyond the scope of the present chapter, due to the data limitations. But a conjectural answer regarding what might have influenced people in Wave 2 to change their perceptions of their lives may be offered by the attempt to link the increasing trends to broader matters. Using the EC's progress reports for Macedonia, the following paragraph discusses the progress of policy programs and laws that concern the labour market in Macedonia in the period of interest.

From 2006, in order to cope with the high rates of unemployment, the government supported a national employment action plan. In addition, as a response to the gender issue of unemployment, an action plan on gender equality for 2007–2012 was adopted. Also, to deal with unemployment among the Roma people, the government adopted measures included in the Decade of Roma Inclusion (Centre for Policy Studies, 2011). Recruitment was further stimulated by creating favourable technical and economic conditions for the stimulation of foreign investments, providing privileges to international companies related to taxation (Hisrich et al., 2016). In 2012, hundreds of enterprises received the subsidised advisory service as part of the project 'factory of business ideas', and three new business clusters were established. The government also adopted local programmes aiming to encourage employment by companies, especially in the immediate period after the crisis (European Commission, 2010). To list a few, they included law on freezing employee health contribution payments referring to the period 2009–2012; support for small and medium businesses provided by the European Investment Bank as a loan of EUR 100 million, in order to avoid employees' dismissal across the span of

the loan; flat taxes; and reduction of contributions for pension and unemployment insurance (Soldi et al., 2014). In addition, a 'regulatory guillotine' in 2007 by the government reduced unnecessary legislation, in terms of simplification and shortening of several procedures when establishing a business. The fees for registration were also reduced. This led to increased registration of new companies. For instance, there was a 20% increase in 2009. Furthermore, legislation on bankruptcy procedures was amended, with a view to improve the procedures and accelerate implementation. The number of bankruptcy cases was reduced (European Commission, 2007b). Recruitment in public administration occurred as new staff in the parliament were recruited and trained (European Commission, 2009).[42] As a result of the higher rate of employment, family disposable income increased, which, alongside social transfers and constant remittances (crucial for higher household consumption), improved financial aspects of Macedonian families.

Although some of the reforms had started in 2007, when Wave 1 happened, the assumption was that it takes time for results to be effective. Thus, the influence on SWB of some earlier policies could be noticed in Wave 2. It is likely that these programs have improved people's lives, or at least their perception of how good their lives are. In this context, positive trends in SWB may reflect the rise in the number of permanent contracts for people aged 25–34 and people's increased satisfaction with job security by 5% (Soldi et al., 2014).[43]

5.7. Conclusion and Policy Recommendations

This chapter identified factors that affect SWB in the context of the labour market in Macedonia. Given the importance of employment for SWB, a government objective should undoubtedly be to increase employment, both in terms of quantity and quality. As evidence

[42] For translation and interpretation from and to Albanian, in line with the law of spoken languages.
[43] Including people living in rural areas.

from other studies shows (see section 2.6.2), being happy at work is not only a personal matter; it is also an economic one (De Neve et al., 2013). Because of the multiple positive outcomes of high levels of SWB, companies may want to raise employees' SWB that will likely exhibit higher levels of job-related performance behaviour. This may translate into improved performance of companies through better productivity (Page & Vella-Brodrick, 2009) and hence be reflected in the whole economy, leading to economic progress (Fernández-Ballesteros et al., 2001, Kahneman & Krueger, 2006).

The analysis revealed job security as a key aspect of the working conditions that impact on SWB. A high fear of losing one's job goes hand in hand with reduced employee's SWB in Macedonia. The findings have policy implications and provide insights for the government for delivering effective employment policies that will generate employment conditions conducive to higher SWB. In line with Origo and Pagani (2009) such employment arrangements can be combined with qualitative improvements in the work environment. These may include: providing training to current employees that would boost career opportunities that will impove their future employment probabilities in case they lose their job; increasing employees' rights and protecting them in case of unemployment such as the company pays compensation for dismissing employees. In addition to improved working conditions and involving interpersonal relationships at the workplace - all of which will lead to increased employment security.

In terms of the unemployed, the finding that unemployment benefits do not improve SWB among the unemployed suggests that different and possibly additional intervention is needed, rather than just providing financial support. It seems that in order to protect the unemployed from the negative consequences of their labour-market status, policies should incentivise the unemployed into work. In this context, getting people back to work may be a better strategy to boost SWB of the unemployed than allocating money to social transfers (Ohtake, 2012). As a result, governments should provide or facilitate training opportunities for the unemployed so

they acquire skills that will increase their employability. The employed and unemployed can be supported to start their own business and create jobs for themselves and others.

There was also evidence that the longer the period of unemployment, the lower the level of SWB, suggesting that the unhappiness of those who are unemployed does not diminish over time. Therefore, the government should maximise efforts to find the mechanisms that can support the unemployed in exiting their state and accessing work, and to prevent exclusion from the labour market of those groups of people. As suggested in other countries, including the adoption of active labour-market policies such as training programs targeting the long-term unemployed to increase their competitiveness, so they can be attractive to employers and thus increase their probability of becoming employed (Thomsen, 2009, Young, 2012). Also, government can provide incentives to companies of reduces tax, if they hire long-term unemployed. It may be useful to provide ways to help mitigate some of the negative unemployment circumstances, such as limited social interactions and monotonous activities. This could include income support schemes that will encourage the unemployed to engage in different activities (Korpi, 1997).

Besides the findings on the determinants of SWB, this chapter extends its contribution by addressing an important concern, the drawback of cross-sectional data to make comparisons over time. The results from the statistical matching and Blinder-Oaxaca decomposition show that even after accounting for observable differences in the respondents from the different waves, there was still increase in SWB. As the positive SWB patterns are open to multiple interpretations, further thoughts were presented to address the possible reasons for those positive trends. The policies discussed in section 5.6, combined with the policy recommendations for this section, may encourage policymakers to take measures that will create conditions to increase and continue SWB in Macedonia.

Having discussed the determinants of SWB at the individual level, the next chapter will introduce macro-level variables to the analysis and will place Macedonia in an international context, in order to examine differences and similarities in SWB with other countries in Europe.

5.8. Appendixes

Table A5.1 Selection of the Variables Based on Different Theories

	Theory	Description	Proxy	Source
Employed	Self-determination theory	competence	occupation	EQLS
			type of sector	EQLS
		relatedness	type of contract	EQLS
		autonomy	job insecurity	EQLS
Unemployed	Stage theory		length of unemployment	EQLS
	Agency restriction model		unemployment benefits	EQLS
	Adaptation theory		previous employment	EQLS
Other controls (Capability Approach)	Nussbaum's list	bodily health	self-reported health	EQLS
		sense, imagination, and thought	education	EQLS
		control over one's environment	employment status	EQLS
			household income	EQLS
	Sen's conversion factors	personal	age	EQLS
			gender	EQLS
		social	marital status	EQLS
			children	EQLS
		environmental	residential area	EQLS

Sources: Author based on Ryan and Deci (2000), Fink (1967), Fryer (1995), Sen (1985, 1992), Nussbaum (2000) and EQLS (2007–2008 and 2011–2012).

Table A5.2 Regrouping the Variables for the Employed

Categories	Wave 1	**Wave 2**
	Current Occupation	
Professional and Managerial	*Professional* (lawyer, medical practitioner, accountant, architect) *Business proprietors, owner* (full or partner) of a company *Employed professional* (employed doctor, lawyer, accountant, architect) *General management, director or top management* (managing directors, director general, other director).	*Manager* (business executive, managing director, finance manager, sales and marketing manager, human resource manager, senior government official, bank manager, hotel manager, restaurant manager, factory owner) *Professional* (doctor, dentist, qualified nurse or midwife, lawyer, judge, architect, scientist, professor, teacher, engineer, IT professional, journalists, psychologist, accountant, artist)
Technician/ Junior Professional	*Middle management* *Other management* (department head, junior manager, teacher, technician) *Supervisor*	*Technician or junior professional* (construction supervisor, air traffic controller, pilot, dental assistant, physical therapist, junior nurse, optician, broker, insurance agent, specialised secretary (like legal or medical secretary), police inspector, customs inspector, telecommunications engineering, real estate agent, credit and loans offices, IT supporting worker, sports instructor, photographer, chef, armed forces occupation)
Clerical Support Worker	*Employed position* (working mainly at a desk)	*Clerical support worker* (secretary, switchboard operator, payroll clerk, typist, data entry clerk, post man, production clerk, bookkeeper, receptionist)
Service Worker	*Employed position, not at a desk, but in a service job* (hospital, restaurant, police, fireman)	*Service worker* (travel attendant, cook, waitress, hair dresser, transport conductor, undertaker, driving instructor, building caretaker, health care assistant, childcare worker, teachers' aide, fire- fighter, police office, prison guard, security guard)
Sales Worker	*Employed position, not at a desk but traveling* (salesman, driver)	*Sales worker* (shop keeper, shop assistant, sales person, service station attendant, cashier)
Skilled/Semi -Skilled Manual Worker	*Skilled manual worker* (farmer, fisherman, owner of a shop, craftsmen, other self-employed person)	*Skilled agricultural forestry and fishery worker* (gardener, crop and animal producer, farmer, fisherman) *Craft and related trades worker* (brick layer, carpenter, electrician, roofer, plumber, painter, welder, blacksmith, toolmaker, mechanic, upholsterer, tile-setter, printer, repair worker, instrument maker, foreman, motor mechanic, seamstress, baker, butcher, tailor, cabinet - maker, handicraft worker, plant and machine operator or assembler, miner, plant operator, machine operator, electronic equipment assembler driver, lifting truck operator)
Unskilled worker	*Other (unskilled) manual worker* (servant)	*Elementary occupations* (cleaner, farm labourer, building construction labourer, hand packer, porter, unskilled factory worker, kitchen helper, street cleaner, garbage collector, messenger, meter reader, sorter)
	Type of Sector	
Public	Public sector	Central, regional or local government administration Other public sector
Private	Private Sector	Private sector
Other	Join private-public organization or company Not-for-profit sector, NGO Other	Other
	Type of Contract	
Unlimited	On an unlimited permanent contract	
Other	On a fixed term contract of less than 12 months On a fixed term contract of 12 months or more On a temporary employment agency contract On apprenticeship or other training contract Without written contract Other	

Source: EQLS 2007–2008 and 2011–2012.

Table A5.3 Summary Statistics for the Employed, by Wave

	Wave 1			Wave 2		
Variable	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**
Life Satisfaction	349	5.719	2.196	427	6.981	1.960
Happiness	348	6.686	2.103	429	7.550	1.820
Male	351	0.618	0.486	429	0.568	0.495
Female	351	0.381	0.486	429	0.431	0.495
Age	351	40.233	10.843	429	39.552	10.759
Married	351	0.800	0.400	429	0.748	0.434
Divorced/Widowed	351	0.156	0.364	429	0.060	0.238
Single	351	0.042	0.202	429	0.191	0.393
Number of Children	351	1.584	1.012	429	1.333	0.936
Rural	351	0.498	0.500	429	0.461	0.499
Urban	351	0.501	0.500	429	0.538	0.499
Secondary or Less	351	0.820	0.384	429	0.587	0.492
Tertiary Education	351	0.179	0.384	429	0.412	0.492
Very Good Health	351	0.299	0.458	429	0.512	0.500
Good Health	351	0.250	0.434	429	0.125	0.332
Fair Health	351	0.424	0.494	429	0.018	0.135
Bad Health	351	0.025	0.158	429	0.342	0.475
First Income Quartile	351	0.119	0.325	429	0.102	0.303
Second Quartile Income	351	0.182	0.386	429	0.184	0.388
Third Quartile Income	351	0.287	0.453	429	0.191	0.393
Fourth Quartile Income	351	0.333	0.472	429	0.268	0.443
Income Not Reported	351	0.076	0.266	429	0.254	0.435
Professional/Managerial	351	0.111	0.314	429	0.261	0.439
Technician/ Junior Professional	351	0.113	0.318	429	0.086	0.281
Clerical Support Worker	351	0.088	0.284	429	0.125	0.332
Service Worker	351	0.122	0.328	429	0.118	0.324
Sales Worker	351	0.054	0.226	429	0.144	0.352
Skilled Semiskilled Worker	351	0.424	0.494	429	0.181	0.386
Unskilled Worker	351	0.085	0.279	429	0.081	0.274
Very Likely	351	0.116	0.321	429	0.079	0.270
Quite Likely Fear	351	0.190	0.393	429	0.139	0.347
Neither Likely Neither Unlikely Fear	351	0.159	0.366	429	0.228	0.420
Quite Unlikely Fear	351	0.159	0.366	429	0.221	0.415
Very Unlikely Fear	351	0.267	0.443	429	0.270	0.444
Don’t Know Fear	351	0.105	0.307	429	0.060	0.238
Public Sector	351	0.321	0.467	429	0.277	0.448
Private Sector	351	0.575	0.494	429	0.580	0.494
Other Sector	351	0.102	0.303	429	0.142	0.349
Unlimited Contract	351	0.632	0.482	429	0.706	0.455
Other Contract	351	0.367	0.482	429	0.293	0.455

Sources: EQLS 2007–2008 and 2011–2012.

Table A5.4 Summary Statistics for the Unemployed, by Wave

	Wave 1			Wave 2		
Variable	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**
Life Satisfaction	223	4.058	2.462	160	5.693	2.441
Happiness	218	5.408	2.408	160	6.562	2.233
Male	223	0.502	0.501	160	0.531	0.500
Female	223	0.497	0.501	160	0.468	0.500
Age	223	40.017	12.792	160	41.612	13.170
Married	223	0.668	0.471	160	0.687	0.464
Divorced/Widowed	223	0.103	0.304	160	0.037	0.190
Single	223	0.228	0.420	160	0.275	0.447
Number of Children	223	1.511	1.229	160	0.142	1.265
Rural	223	0.484	0.500	160	0.568	0.496
Urban	223	0.515	0.500	160	0.431	0.496
Secondary or Less	223	0.932	0.251	160	0.837	0.370
Tertiary Education	223	0.067	0.251	160	0.162	0.370
Very Good Health	223	0.246	0.432	160	0.462	0.500
Good Health	223	0.327	0.470	160	0.268	0.444
Fair Health	223	0.295	0.457	160	0.212	0.410
Bad Health	223	0.130	0.337	160	0.056	0.231
First Income Quartile	223	0.434	0.496	160	0.387	0.488
Second Quartile Income	223	0.174	0.380	160	0.143	0.351
Third Quartile Income	223	0.152	0.360	160	0.081	0.274
Fourth Quartile Income	223	0.080	0.237	160	0.031	0.174
Income Not Reported	223	0.156	0.364	160	0.356	0.480
Short-term Unemployed	223	0.183	0.388	160	0.150	0.358
Long-term Unemployed	223	0.816	0.388	160	0.850	0.358
Yes Unemployment Benefits	223	0.260	0.439	160	0.175	0.381
No Unemployment Benefits	223	0.739	0.439	160	0.825	0.381
Yes Previous Employment	223	0.520	0.500	160	0.737	0.441
No Previous Employment	223	0.479	0.500	160	0.262	0.441

Sources: EQLS 2007–2008 and 2011–2012.

Table A5.5 Joint Significance Tests for the Employed

	Wald Test			
	Wave 1		**Wave 2**	
	Life Satisfaction	**Happiness**	**Life Satisfaction**	**Happiness**
Current occupation	0.375	0.018	0.248	0.450
Job insecurity	0.264	0.992	0.007	0.014
Type of sector	0.304	0.501	0.346	0.351

Sources: EQLS 2007–2008 and 2011–2012.

Note: Tests whether the independent variables have simultaneously predictive power.

Table A5.6 Post-Estimation Tests for OLS for the Employed

	Post-Estimation Tests			
	Wave 1		**Wave 2**	
	Life Satisfaction	**Happiness**	**Life Satisfaction**	**Happiness**
Ramsey Reset test	0.119	0.616	0.622	0.613
Link test	0.765	0.888	0.393	0.341
Breusch-Pegan/Cook-Weisberg test	0.689	0.491	0.187	0.005

Sources: EQLS 2007–2008 and 2011–2012.

Note: p-values reported. Tests relate to omitted variables, miss-specification and heteroscedasticity.

Table A5.7 Post-Estimation Tests for OLS for the Unemployed

	Post-Estimation Tests			
	Wave 1		**Wave 2**	
	Life Satisfaction	**Happiness**	**Life Satisfaction**	**Happiness**
Ramsey Reset test	0.563	0.743	0.047	0.295
Link test	0.323	0.697	0.418	0.428
Breusch-Pegan/Cook-Weisberg test	0.055	0.802	0.352	0.414

Sources: EQLS 2007–2008 and 2011–2012.

Note: p-values reported. Tests relate to omitted variables, miss-specification and heteroscedasticity.

Table A5.8 Rosenbaum Bounds for Treatment Effects

		Γ	p-critical
Employed	Life Satisfaction (N = 427 matched pairs)	1	0.000
		1.1	0.000
		1.2	0.000
		1.3	0.002
		1.4	0.016
		1.5	0.060
	Happiness (N = 429 matched pairs)	1	0.028
		1.1	0.142
		1.2	0.337
		1.3	0.649
		1.4	0.848
		1.5	0.948
Unemployed	Life Satisfaction (N = 160 matched pairs)	1	0.000
		1.1	0.000
		1.2	0.002
		1.3	0.008
		1.4	0.022
		1.5	0.049
	Happiness (N = 159 matched pairs)	1	0.000
		1.1	0.000
		1.2	0.001
		1.3	0.003
		1.4	0.009
		1.5	0.022

Sources: EQLS 2007–2008 and 2011–2012.

CHAPTER 6

SWB IN MACEDONIA FROM A COMPARATIVE PERSPECTIVE

6.1. Introduction

Chapters 4 and 5 empirically investigate the relationship between a set of individual variables and SWB in Macedonia. Those chapters show that health, income and employment activity are the key socio-economic determinants that relate to SWB in Macedonia. This chapter builds on and substantially extends the analysis in the previous chapters in two ways. First, the chapter adds new variables to the empirical models because, as discussed in Chapter 2, SWB is a complex concept that requires understanding not only of individual-level factors but also country-level determinants. The inclusion of new variables in the analysis, including macro-economic factors and formal and informal institutions, provides further supporting evidence of the robustness of the results concerning the individual-level determinants examined in Chapters 4 and 5. It checks whether the individual-level variables retain their significance with the inclusion of the additional variables. Second, this chapter is a further step toward understanding the position of Macedonia in Europe in regard to SWB. In other words, the analysis places Macedonia in a broader context (European and Balkan), by comparing and contrasting it with other countries included in the EQLS. Due to the inclusion of new countries, the sample size has increased, allowing more accurate analysis.

There has been a broad consensus amongst scholars about the low levels of SWB in transition countries. As already mentioned, the large-scale economic, political and institutional

reforms during the transition process have affected the people's lives (Sanfey & Teksoz, 2007, Popova, 2014). The implications of the intense hardship on people's lives are not only represented by the decline in the standard economic indicators, but also are reflected in social changes, including unemployment and poverty that brought inherent discomfort upon people, dragging SWB levels downward (Easterlin, 2009, Graham, 2010). For instance, researchers argue that during the early years of the transition process, SWB has eroded as a result of declined income (Bartolini et al., 2017), increased income inequalities (Gruen & Klasen, 2000), deterioration of public goods such as education (Guriev & Zhuravskaya, 2009), labour-market stagnation, inadequate social protection (Easterlin, 2009) and transformation of norms (Graham & Pettinato, 2002).

In some transition countries, SWB levels recovered as the gradual progress of the transitional reforms was accelerated, preceding their EU accession (Nikolova, 2014). Those countries that became members of the EU needed to obey the EU requirements for achieving economic freedom, combating corruption and producing functional public institutions (Fidrmuc & Gërxhani, 2008). Yet, the SWB levels in economies from Central Europe that became EU members lagged behind the average level of the EU (Gruen & Klasen, 2000).

However, recent suggestions challenge existing findings that people from transition countries score lower on SWB ratings (EBRD, 2017). Recent evidence that tackled the question of disparities in SWB between the transition and the nontransition world found that the gap between the two has gradually narrowed (Nikolova, 2016). This may be due to positive developments in macro-economic and institutional conditions in transition countries, which brought SWB levels closer to those in developed countries. For example, notwithstanding the challenges that countries faced during the transition, as a consequence of the transitional reforms, countries managed to modernise the existing institutions or establish new ones (Skoglund, 2017).

Very little research, however, has sought to investigate the occurrence of convergence in the context of non-EU transition countries. More specifically, SWB research on ex-Yugoslavian countries is almost non-existent. With few exceptions (Dabalen & Paul, 2011, Djankov et al., 2016, Nikolova, 2016), the majority of studies have excluded ex-Yugoslavian countries, in order to examine trends of SWB across long-time periods.[44] This is a notable omission, given that the ex-Yugoslavian countries possess unique features. They are among the few countries in Europe that despite ongoing governments' efforts toward joining the EU, have not managed to complete their EU accession.[45]

In an attempt to address that deficit in knowledge, this chapter investigates the sources of the SWB gap among Macedonia and other countries in Europe, differentiating determinants in personal characteristics of the respondents, social capital, macro-economic performance and institutional set-ups. This separation of factors is essential for providing insights to policy makers. If the SWB differences are due to the economic and institutional environment in which these people live, the Macedonian government could implement policies that target improvement of conditions with potential to bring SWB levels closer to those of countries with higher SWB. To achieve the aim of the chapter, three research questions will be addressed: 'How do SWB levels in Macedonia compare to those of other countries in Europe?'; 'What macro-level factors might account for the SWB gap between Macedonia and other countries?'; and 'How does the relative importance of SWB determinants differ across regions in Europe?'

The rest of the chapter is organised as follows. The next section reviews the related SWB literature on economic and institutional determinants of SWB. Then the chapter introduces the new data used to augment the EQLS data. The analysis section follows, providing empirical evidence obtained with OLS and Shapley-based decomposition. Following this is discussion of

[44] This is because not all SWB surveys include those countries consistently in each round.
[45] Slovenia is an exception, having joined the EU in 2004.

the results from the different methods. Finally, the chapter concludes and considers policy implications.

6.2. Empirical Literature

The following sub-sections offer an overview of the economic and institutional determinants of SWB most frequently investigated in the literature and mainly found to be associated with SWB in European countries, since research on individual-level determinants has been discussed in the previous chapters.

6.2.1. Macro-Economic Factors

Economic conditions have been found responsible for much of the variation in SWB across countries, especially when the countries face issues with economic security (Abbott & Sapsford, 2006, Habibov & Afandi, 2009). One of the most commonly used macro-economic factors in comparative studies is GDP per capita (Grimes & Reinhardt, 2015). Taken in its natural logarithm, GDP per capita is used to adjust for countries' economic development and enables a reliable comparison of SWB levels across countries. Countries with higher GDP per capita report higher SWB, but there are diminishing returns to higher national income at higher levels of economic development (Easterlin, 2016), while better economic performance leads to greater SWB, especially in low-income countries (Di Tella et al., 2003, Fahey & Smyth, 2004, Rehdanz & Maddison, 2005, Deaton, 2008).

While GDP is a useful indicator, other research findings have pointed to differences in unemployment levels as the main indicator of differences in SWB (Hayo, 2007). In fact, unemployment measured at the national level negatively associates with SWB in many studies (Di Tella et al., 2003, Blanchflower & Oswald, 2004a, Di Tella & MacCulloch, 2008).

However, once control for national income is added to the models, Rehdanz and Maddison (2005) no longer find a statistically significant effect of unemployment on SWB.

Another macro-economic variable examined in the SWB literature that has a decreasing effect on SWB is inflation. Inflation implies presence of volatility in the country and, therefore, brings economic uncertainty that adversely affects perception (Bjørnskov, 2003). When unemployment and inflation are jointly studied and compared, the results suggest that unemployment decreases SWB of the whole population, whereas inflation is felt more heavily by the highly educated people or people who are politically right-wing oriented and suffer more from it (Di Tella et al., 2001, Alesina et al., 2004).

6.2.2. Institutional Factors

In addition to macro-economic factors, institutional factors are also a source of differences in international SWB comparison (Helliwell & Huang, 2008). In particular, relatively higher SWB levels in more developed countries can be attributed to additional conditions that citizens enjoy, deriving from good institutions as an integral part of the societies in which they live (Altindag & Xu, 2011). Conversely, people from countries with dysfunctional institutions often feel part of society with bad political practices. As a result, weak institutional framework has negative psychological implications on people and lowers their SWB (Rothstein & Teorell, 2008). This is because institutional factors not only exert an indirect impact on SWB through GDP, but also directly affect SWB through other channels, such as time and efforts to cope with the country's lawlessness (Welsch, 2008).

Corruption seems to have a clear negative pattern among all the countries in existing research on post-communist countries from Central and Eastern Europe (Rodríguez-Pose & Maslauskaite, 2011, Djankov et al., 2016). Corruption has been used as a measure of political institutions (Rodríguez-Pose & Maslauskaite, 2011), as a proxy for the quality of the

government (Inglehart & Klingemann, 2000) and for democratic quality (Helliwell & Huang, 2008). Corruption also affects a variety of economic indicators and offsets their positive influence on people's lives (Inglehart & Klingemann, 2000).

Bjørnskov et al. (2008a) and Veenhoven (2000a) argue that political participation strongly associates with SWB and that free and uncontrolled press increases transparency and makes it easier for citizens to influence politicians and decision makers in society. In SWB research, this has been captured by the variable voice and accountability that have been used as a proxy for electoral democracy, especially important for economically poorer countries (Helliwell & Huang, 2008).

6.2.3. Social Capital

Williamson and Mathers (2011) have noted that informal and formal institutions complement each other. They are both reconcilable, and informal institutions are preconditions for social progress as they contribute to building good-quality formal institutions (Zak & Knack, 2001), such as economic and judicial governance indicators (Bjørnskov, 2010), and maintaining a democratic society (Putnam, 1995). Social trust has been used as a proxy for informal institutions (Bartolini & Sarracino, 2014) and has emerged as one of the most salient predictors of SWB in post-socialist European countries (Helliwell et al., 2014), especially in the presence of corruption (Fidrmuc & Gërxhani, 2008). This is because in those countries, the communist regime did not support the formation and maintenance of social capital but instead created a stock of negative capital. In addition, during the period of the Eastern European countries' transformation from communism to capitalism, depreciation in social capital was evident (Kaasa & Parts, 2008, Sissenich, 2010, Nikolova, 2016).

Social trust is considered one of the key aspects of social capital (Bjørnskov, 2006, Huxley et al., 2013), which reflects the feeling of being a part of a trustworthy and safe environment that offers increased opportunities for human contacts and high social cohesion (Knack, 2001).

Social trust leads to rewarding social relationships (Sztompka, 1998) and, therefore, may insure SWB against income instability or other difficulties in life, provide a buffer in times of crisis and reduce the harsh conditions experienced during unemployment (Helliwell et al., 2014). The effect of social trust on SWB is found to be twice as large as that of income, according to some studies (Helliwell et al., 2009).

6.3. Data and Variables

As in previous chapters, the main data source is the EQLS, and data from two waves 2007–2008 and 2011–2012 are used. The EQLS was detailed presented in Chapter 4, so this chapter only complements that discussion with information on the new countries included in the survey. The data from all the countries were collected using the same questionnaire, translated into each country's national language. This enabled cross-country comparison across Europe and over time (Eurofound, 2015). The target sample size for the majority of the countries was 1,000 interviews, except for France, the UK, Poland and Italy, which had a target size of 1,500, and Turkey and Germany, each with 2,000 respondents (Eurofound, 2015). The 2007–2008 round of EQLS was carried out among twenty-seven EU members and four non-EU countries (Croatia, Macedonia, Norway and Turkey), resulting in more than 35,000 observations. In 2011–2012, EQLS aimed at collecting data varying from 1,000 (for the smaller countries) to 3,000 (for the larger countries). In 2011–2012, the total number of respondents from the twenty-seven EU members and seven non-EU countries (Croatia, Iceland, Kosovo, Macedonia, Montenegro, Serbia and Turkey) was 43,636 (Eurofound, 2015).

Differences in macro conditions are commonly thought responsible for the differential in SWB between countries (Abbott & Sapsford, 2006, Hayo, 2007, Helliwell & Huang, 2008, Habibov & Afandi, 2009), so several data sets were combined to permit simultaneous identification of individual and country-level determinants that relate to SWB in Macedonia and

broadly in Europe. The EQLS data have been merged with two types of aggregate data, economic and institutional. The macro-economic data come from the World Bank (WB), International Labour Organisation (ILO) and International Monetary Fund (IMF), while the institutional factors are derived from the Worldwide Governance Indicators (WGI).

6.3.1. Individual-Level Data

The data for the individual-level variables come from the two waves (2007–2008 and 2011–2012) of the EQLS. As in previous chapters, SWB is examined through its two different aspects, life satisfaction and happiness, both measured on a scale of 1–10. Although both reflect SWB, they may have a different association with the explanatory variables, as already noted. A study by Tay and Diner (2011) find that basic-needs fulfilment and aggregate-level economic arrangements matter for life satisfaction, while personal-level conditions (such as social ties, autonomy) matter more for happiness. Based on such findings, it is expected that the evaluative component of SWB will be defined more by economic factors (at the individual and aggregate level), while socio-demographic factors such as marriage, having children, education and social trust will be more important for the hedonic part of SWB.

The analysis uses the individual-level variables discussed in Chapter 4. Based on the capability approach (see Table A6.1.), these are education, employment activity, health and income, used as proxies for opportunities available to people. Their translation into SWB depends upon age, gender, marital status, children and residential area. In addition, data on social trust are used as a proxy for informal institutions. The measure of social trust is in the form: ‘Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people? Please tell me on a scale of 1 to 10, where 1 means that you can’t be too careful and 10 means that most people can be trusted’ (Eurofound, 2015).

6.3.2. Country-Level Data

For the country-level variables, the analysis uses economic and institutional variables. The aggregate-level variables tend to be highly correlated with each other; therefore, the selection of the appropriate ones is based on findings from other studies concerning Europe and transition countries, hypothesising those that influence on people in Macedonia. The variables are also chosen to represent capabilities and conversion factors in accordance with the capability approach (Table A6.1). Tables A6.2 and A6.3 present detailed definitions and summary statistics of the aggregate variables, as well as social trust.

The measure of economic conditions utilises several conventional indicators, such as GDP per capita, inflation and unemployment rate, as they are also clearly important in the case of Macedonia because of the economic instability and labour-market issues. GDP growth is also added to the models as some scholars have included it in their studies (Wu & Li, 2013). The macro-economic data are taken from WB, IMF and ILO. In terms of the institutional variables, control of corruption and voice and accountability are used for the analysis, both taken from the WGI. Following the approach of Helliwell et al. (2014), the values of the aggregate variables are calculated as the average value of the two years in which the particular wave was carried out, each wave having been completed over a period of two years.

6.3.3. Descriptive Statistics

Descriptive statistics in Table 6.1 shed initial light on the variation in SWB between countries in Europe, also showing how average SWB at country level differ across years and across the two measures of SWB. In order to facilitate a comparison of trends in SWB, the results for the particular SWB measure over the two years are reported side-by-side. The change in mean values between the two waves for a particular country is also provided and a corresponding star(s) indicates whether the reported means in the two years are significantly

different from each other. These are obtained by undertaking independent two-sample t-tests. The number of observations is reported in the last two columns of the table.

Table 6.1 Descriptive Statistics by Country and Wave

	Life Satisfaction			Happiness				
	Mean			Mean			Observations	
Country	**Wave 1**	**Wave 2**	**Diff.**	**Wave 1**	**Wave 2**	**Diff.**	**Wave 1**	**Wave 2**
Austria	6.8	7.7	0.813***	7.2	7.7	0.494***	1037	1018
Belgium	7.5	7.5	-0.259	7.8	7.7	-0.101	1008	1011
Bulgaria	4.9	5.4	0.495***	5.7	6.1	0.363***	949	947
Cyprus	7.0	7.2	0.156	7.5	7.6	0.054	1001	994
Czech Republic	6.5	6.4	-0.091	7.4	7.1	-0.338***	1217	1010
Germany	7.1	7.3	0.203***	7.4	7.5	0.051	1933	2999
Denmark	8.5	8.5	-0.007	8.3	8.3	-0.015	993	1022
Estonia	6.7	6.2	-0.431	7.2	6.8	-0.405***	1015	991
Greece	6.5	6.2	0.328**	7.2	6.5	-0.723***	994	990
Spain	7.2	7.5	0.242	7.5	7.8	0.215***	1013	1502
Finland	8.2	8.2	0.014	8.3	8.2	-0.026	997	1018
France	7.3	7.2	-0.025	7.7	7.4	-0.266***	1521	2263
Hungary	5.5	5.9	0.370***	6.8	7.0	0.174*	993	1011
Ireland	7.6	7.5	-0.101	8.0	7.8	-0.208**	967	1044
Italy	6.5	6.9	0.406***	6.9	7.1	0.193***	1484	2227
Lithuania	6.2	6.6	0.383***	7.0	6.8	-0.143	995	1120
Luxembourg	8.0	7.9	-0.106	8.1	7.9	-0.179**	996	1004
Latvia	6.0	6.2	0.134	6.8	6.5	-0.249**	986	991
Malta	7.5	7.3	0.221**	7.9	7.3	-0.594***	982	992
Netherlands	7.9	7.7	0.162**	8.0	7.8	-0.212***	1010	1007
Poland	6.8	7.0	0.244***	7.3	7.3	0.024	1468	2229
Portugal	6.1	6.7	0.589***	6.8	7.1	-0.333***	990	1010
Romania	6.5	6.6	0.161*	6.9	6.8	-0.102	941	1500
Sweden	8.4	8.1	-0.242***	8.2	7.9	-0.269***	1011	1000
Slovenia	7.2	7.0	-0.163*	7.5	7.2	-0.301***	1027	994
Slovakia	6.6	6.3	-0.262**	7.3	6.8	-0.505***	1014	926
UK	7.3	7.4	0.073	7.8	7.7	-0.077	1484	2241
Turkey	6.2	6.7	0.474***	6.6	6.9	-0.301***	1926	2003
Croatia	6.3	6.8	0.513***	6.8	7.3	-0.478*	969	995
Macedonia	5.2	6.7	1.496***	6.1	7.2	-1.059***	972	1001
Kosovo		6.3			6.4			1009
Serbia		6.4			7.2			990
Montenegro		7.1			7.7			988
Total	6.9	7.0		7.3	7.3		33,993	43,258

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Mean values for SWB measures and independent samples t-test by country. Number of observations are the sample sizes from which the means have been calculated.

Looking first at the overall trends over time, both measures of SWB were stable over the two waves. European average life satisfaction showed an increase of only 0.1 points while average happiness remained the same. Positive and negative changes in individual countries seem to have balanced out the average European SWB. SWB trends at national levels experienced the following changes: Life satisfaction fell in nine countries, remained the same in two countries and rose in nineteen countries. With regard to happiness, two countries showed no change, happiness levels were reduced in seventeen countries and eleven countries enjoyed rising happiness. The results from the t-tests show that about half of those changes were statistically significant.

The decline in SWB in some countries (such as Estonia, France, Luxembourg, Malta, Netherlands, Sweden, Slovenia and Slovakia) may reflect the negative consequences of the global crisis that happened between the two waves. Due to the fact that economic struggles are less common to particular advanced economies, the crisis may have made people less able to cope when it happened, causing them to experience reduced SWB. Moreover, as Hayo and Seifert (2003) claim, experiencing lower SWB may occur due to people's pessimistic attitude toward their present financial conditions or perceptions about the future variations in their financial situation.

However, the crisis does not seem to have affected all countries equally if countries such as Belgium, Denmark and Finland are considered, where SWB remained at the same levels,. In line with the argument provided by Helliwell et al. (2014), the social capital the people possess may have mitigated the negative effect of the crisis. As Layard (2011) usefully explained, building close relationships and interactions with other people provide feelings of belongingness, security and confidence, making people feel stronger and able to deal with different life events. Another explanation may be related to what Johnson and Krueger (2006) suggested regarding the influence of a particular objective situation that may be completely

mediated by the personal perception of financial status. An interesting observation is that the EU candidates (Macedonia, Turkey and Croatia) are the countries that recorded the greatest improvements in SWB in 2011–2012.[46] The rising trends were significant across both measures of SWB.

6.3.4. Country Rankings According to SWB and GDP

According to Table 6.1, there were large, unconditional SWB disparities between countries. The Nordic countries had the highest rankings, while the lowest national score was Bulgaria's with an average SWB score of 5.4 for life satisfaction and 6.4 for happiness in 2011–2012, which is below the Europe average (7.0 for life satisfaction and 7.3. for happiness). This section explores these large SWB differences further in relation to GDP. The visual presentation of these relationships across countries is plotted in Figures 6.1 to 6.4. Overall, there is a positive relationship between GDP per capita and the national average of life satisfaction and happiness. Countries that are economically developed (as proxied by GDP per capita) are placed higher on the graphs.

However, some interesting observations emerge. For example, although some countries have similar GDP per capita levels, the average national levels of SWB differ to a substantial extent. This is the case for Bulgaria and Romania, Italy and France, Portugal and Malta in 2007–2008. SWB in 2011–2012 went up and people from some less developed countries, such as Macedonia, Kosovo and Serbia that reported SWB, were as happy and satisfied with their lives as people in Portugal and the Czech Republic, but had higher levels of SWB than countries with far higher GDP, including Bulgaria, Hungary and Greece.

Macedonia ranked lower than almost every country included in the analysis for Wave 1. On a more positive note, the country scored better than Bulgaria (Table 6.1), even though

[46] Croatia at the time of the survey was not a part of EU and is referred to as a non-EU country.

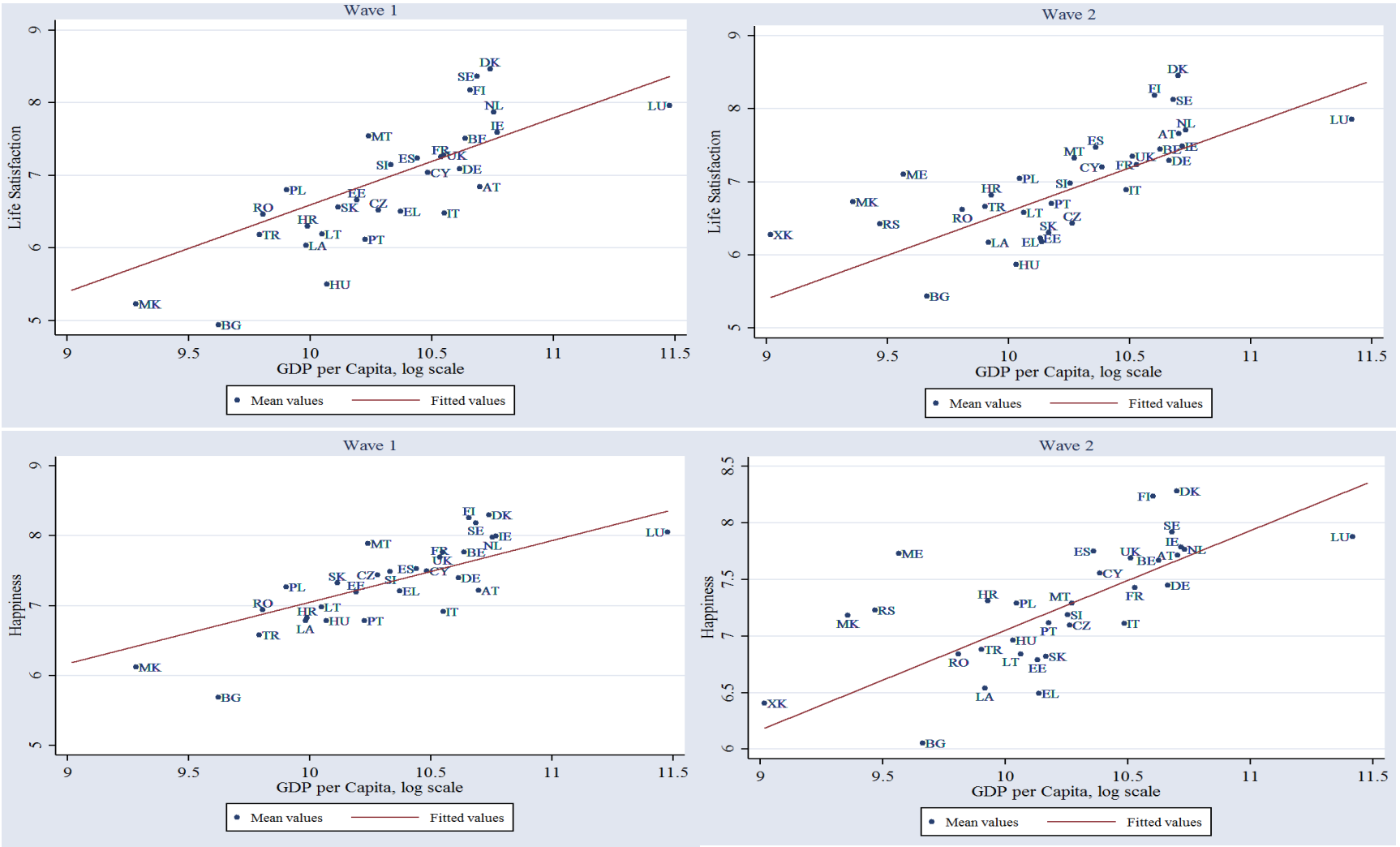
Bulgarian GDP per capita was higher than Macedonia's (Figures 6.1 and 6.3). SWB in Macedonia went up in 2011–2012, and Macedonians were as happy as Slovenians, while life-satisfaction levels compared well with those reported by Polish and Turkish respondents (Table 6.1). Increased levels of SWB in Macedonia ranked the country higher than not only Bulgaria but also Kosovo, Serbia, Slovakia, Slovenia, Romania, Portugal, Latvia, Lithuania, Hungary, Greece, Estonia, the Czech Republic and Italy (Table 6.1). Thus, in 2011–2012, Macedonia moved closer to the European average of SWB and reported life satisfaction and happiness as high as countries with far higher GDP per capita, such as Portugal and Italy (Figure 6.1). It is worth noting that even though the results regarding the improvements in SWB are encouraging, Macedonians in Wave 1 were considerably less happy in that the later catch-up improvement was insufficient to overcome the initial gap with some Western and Nordic economies.

The question that arises concerns the reasons why people in some less developed countries, including Macedonia, appear happier and more satisfied with their lives than citizens in some countries with better economic conditions (such as GDP), especially after the economic crisis occurred. In line with the argument of Nikolova and Popova (2017), one of the possible explanations could be people's adaptation to circumstances, the so-called hedonic treadmill. People may have adjusted their preferences downward, due to the less advanced conditions of life, and accepted their conditions as a happy life.

This suggests that perhaps the SWB of Macedonians did not decline during the global financial crisis because of a two reasons. First, it may be that the Macedonian population had become used to the economic situation and, hence, reported high levels of SWB regardless of their harsh circumstances. In the same lines, the reason may also be related to what Johnson and Krueger (2006) suggested regarding the influence of a particular objective situation completely mediated by the personal perception of financial status. Second, as discussed in Chapter 3, Macedonia has not been extremely affected by the crisis, as the country is not integrated fully

to European markets. Therefore, it is likely that the crisis was not felt as acutely by the people in Macedonia.

Figure 6.1 Measures of ~SWB and GDP per Capita, Log-Transformed



Source: EQLS merged with WB data for 2007–2008 and 2011–2012.

6.4. Econometric Methods

In this section, the patterns of SWB discussed in the previous sections are more systematically analysed by employing OLS regressions. The decision was made to use OLS rather than ordered probit models because using both techniques in Chapter 4 gave similar results. However, OLS coefficients are easier to communicate to a broader audience (Kapsalis, 2010). The results from OLS regression show whether the SWB differences between Macedonia and other countries persist after accounting for socio-economic differences of individuals, disparities in macro-variables and formal and informal institutions. Furthermore, Shapley-based decomposition is used to discern the relative importance of each explanatory variable in accounting for SWB variance across regions in Europe.

6.4.1. OLS Regressions

The OLS empirical analysis comprises two parts. First, the models are based on Europe, then the second part examines the Balkan countries. The first part of the analysis utilises data only for countries included in both waves, to enable comparison of the same countries over the two periods of time. The sample spanned thirty countries. For the second part, the analysis delves deeper into the Balkan countries by comparing the former Yugoslavian countries (Kosovo, Croatia, Serbia, Montenegro and Macedonia), as they provide a relevant comparison group, sharing a similar background as ex-Yugoslav members not accepted in the EU. For the sake of completeness from a geographical perceptive, Bulgaria, Greece and Turkey have also been included in the models.

Employing OLS regressions assumes a linear relationship between the dependent variable Y_{ic} (SWB) of an individual i living in a county c, and the explanatory variables X_{ic} (socio-economic determinants such as health, education, employment activity, income,

gender, age, age^2, marital status, number of children and residential area) and Z (country dummies to account for country-specific differences).

$$Y_{ic} = \alpha + \beta X_{ic} + \gamma Z_{ic} + \varepsilon_{ic} \quad (6.1)$$

where α is an intercept term and shows the value that Y_{ic} takes when everything else is zero, β and γ are a set of the coefficients to be estimated and ε_{ic} is a residual or error term that captures measurement errors, the unobserved traits or additional factors not included in the model. Linking this analysis to the two preceding chapters, Macedonia remains the country of interest, and all other countries are compared to Macedonia.

Following this, the aggregate economic and institutional factors are introduced in the models. Since the models are based on the variation in country-level indicators across countries, the use of country dummies is not possible, due to their collinearity with the former. The model is as follows:

$$Y_{ic} = \alpha + \beta X_{ic} + \varphi M_{ic} + \tau P_{ic} + u_{ic} \quad (6.2)$$

where M_{ic} is a vector of aggregate-level economic factors such as GDP, unemployment rate and inflation, P_{ic} is a vector of institutional variables such as corruption, voice and accountability and social trust, and related to them are φ and τ, the set of coefficients to be estimated and u_{ic} is the standard error. The explanation of the remainder of the equation is the same as in (6.1).

Inclusion of the full set of country dummies is prevented in (6.2), due to collinearity with the aggregate variables. For the next part of the analysis, the countries are grouped in regions and region dummies have been created. The classification of the countries into regions is based on similarities in their degree of economic and societal progress. A rough approximation for this is their EU membership, as integration into EU requires meeting certain standards, such as stable institutions and a functioning market economy (European Commission, 2016). The following regions can be identified: E10 (Belgium, Germany, France, Italy, Luxembourg, Netherlands, Denmark, Ireland, United Kingdom and Greece), A15 (Cyprus, Czech Republic,

Estonia, Hungary, Lithuania, Latvia, Malta, Poland, Slovenia, Slovakia, Austria, Finland, Sweden, Spain and Portugal), New Entrants (Bulgaria and Romania) and non-EU (Turkey, Croatia and Macedonia). Such groupings may also show whether the SWB patterns in Europe are attributable to countries' EU membership. In this context, even though transition countries generally share a comparable transition history, they may differ as macro-economic features and institutions in some of them have been formed or adjusted based on the requirements imposed by the EU, preceding their accession.

The inclusion of the regions leads to equation (6.3), as follows:

$$Y_{ic} = \alpha + \beta X_{ic} + \varphi M_{ic} + \tau P_{ic} + \delta E_{ic} + v_{ic} \quad (6.3)$$

where δ is the set of coefficients attached to the region dummies E_{ic}; v_{ic} is the error term and the rest of the equation is the same as in (6.2). For the purpose of the OLS regressions, the last region, non-EU, is the excluded one.

The second part of the empirical analysis includes identical variables from the previous (6.1) and (6.2) models but focuses on the Balkan countries only. In addition, the models use data from only 2011–2012, since data for some of the countries of interest were included only in Wave 2.

When the model considers aggregate-level variables, the residuals are dependent and may suffer from a downward bias. Therefore, the standard errors in equations (6.2) and (6.3) are clustered at the corresponding country level. The use of country clusters relaxes the assumption of the independency of individual observations within aggregate units (Moulton, 1986) but does not affect the estimated coefficients. However, it may result in different, albeit corrected, standard errors.

6.4.1.1. Results

The OLS estimates are presented in Tables 6.2 to 6.5. Each table consists of four columns. Except for Table 6.5, the first two columns reflect the results from Wave 1, while the findings for Wave 2 are presented in the last two columns. The first column of each year contains the coefficients for the evaluative measure of SWB, life satisfaction, followed by the estimates for happiness, which serves as a hedonic metric for SWB. All four columns in Table 6.5 refer to 2011–2012.

6.4.1.1.1. Macedonia in the European context

The regression coefficients of the estimated equation (6.1) are given in Table 6.2. Most of the results corroborate with previous findings in the literature discussed in section 2.7.1. Women (Alesina et al., 2004), coupled individuals (Stack & Eshleman, 1998, Kohn & Averett, 2014), the employed (Blanchflower, 2001, Di Tella & MacCulloch, 2004), those with higher education (Blanchflower & Oswald, 2004b, Bjørnskov et al., 2013), better health (Graham, 2008, Veenhoven, 2010) and higher income (Clark & Lelkes, 2005) reported higher SWB. Thus, findings regarding SWB in Europe are similar to findings from the OLS results obtained in Chapter 4. In addition, the analysis regarding Europe produced new, statistically significant results for some variables that had not been identified in the previous chapters, perhaps due to the increased sample size. SWB on average increased with the number of children (Buss, 2000), living in a rural area (Gerdtham & Johannesson, 2001, Dockery, 2003, Hayo, 2007) and being retired, while it decreased with being short-term unemployed (Winkelmann, 2014).

Slightly different results than the previous chapters are obtained concerning the relationship age and SWB, because SWB in Europe had a turning point at an earlier age than in Macedonia. The coefficients of age and age^2 showed that life satisfaction in Europe had a turning point at the age of 41 and 43 in 2007–2008 and 2011–2012, respectively. The lowest

point of happiness among European people was reached by the end of the fourth decade of a person's life (46 years in Wave 1 and 47 years in Wave 2). Similar results are obtained in existing studies referring to the UK, where the turning point is at age 43.3, and Australia with the lowest SWB at the age of 43.1 and 40.7 (Cheng et al., 2017).

The country dummies that capture any remaining differences across countries reveal the SWB differences between them, after controlling for socio-economic characteristics of the respondents. The Nordic countries still had the highest SWB rankings, while the lowest national score corresponds to Bulgaria. While the descriptive statistics show that compared to Macedonians, only Bulgarians had reported lower SWB in 2007–2008, according to the regression models, Hungarians were also less satisfied with their lives than Macedonians, and Turks were significantly less happy. In addition to Bulgaria and Hungary, average life satisfaction in Wave 2 was lower in Greece and Slovakia than in Macedonia. In 2011–2012, the group of countries where happiness was lower than Macedonia expanded to include Greece.

Regarding the ex-Yugoslavia, Slovenia's SWB levels were the highest, as the country leans toward advanced economies. At the period examined, Slovenia is the only ex-Yugoslav economy that had managed to join the EU. This may be due to its faster progress in rebuilding its society after the transition. A body of earlier work claims that after becoming EU members, transition countries witness improvements in SWB as the society benefits from modernised institutions and progress in different areas required to comply with EU regulations (Nikolova & Nikolaev, 2017).

Table 6.2 Estimates of SWB for the Individual-Level Characteristics

	Life Satisfaction Wave 1	**Happiness Wave 1**	**Life Satisfaction Wave 2**	**Happiness Wave 2**
Female	0.135***	0.137***	0.073***	0.138***
	(0.022)	(0.019)	(0.021)	(0.018)
Age	-0.048***	-0.045***	-0.040***	-0.037***
	(0.004)	(0.004)	(0.004)	(0.004)
$Age^2/100$	0.057***	0.049***	0.046***	0.039***
	(0.004)	(0.004)	(0.004)	(0.004)
Divorced	-0.656***	-0.807***	-0.482***	-0.667***
	(0.037)	(0.034)	(0.035)	(0.032)
Widowed	-0.564***	-0.831***	-0.391***	-0.721***
	(0.040)	(0.037)	(0.038)	(0.035)
Single	-0.375***	-0.513***	-0.253***	-0.454***
	(0.036)	(0.033)	(0.034)	(0.030)
Number of Children	0.039***	0.054***	0.051***	0.052***
	(0.010)	(0.009)	(0.010)	(0.009)
Urban	-0.086***	-0.031*	-0.142***	-0.061***
	(0.021)	(0.019)	(0.021)	(0.018)
Secondary	0.224***	0.181***	0.043	0.063*
	(0.035)	(0.032)	(0.037)	(0.034)
Tertiary	0.408***	0.286***	0.206***	0.188***
	(0.040)	(0.037)	(0.041)	(0.037)
Short-term Unemployed	-0.765***	-0.487***	-0.768***	-0.433***
	(0.084)	(0.072)	(0.064)	(0.055)
Long-term Unemployed	-1.152***	-0.727***	-0.882***	-0.521***
	(0.070)	(0.065)	(0.061)	(0.052)
Retired	0.109***	0.089**	0.223***	0.126***
	(0.039)	(0.035)	(0.037)	(0.034)
Homemaker	-0.002	-0.039	0.051	-0.012
	(0.043)	(0.039)	(0.045)	(0.038)
Student	0.424***	0.318***	0.264***	0.256***
	(0.055)	(0.049)	(0.052)	(0.045)
Other	-0.186***	-0.065	-0.223***	-0.072
	(0.067)	(0.060)	(0.068)	(0.061)
Good Health	-0.436***	-0.488***	-0.484***	-0.616***
	(0.027)	(0.024)	(0.026)	(0.023)
Fair Health	-0.994***	-1.020***	-1.033***	-1.188***
	(0.033)	(0.029)	(0.032)	(0.028)
Bad Health	-1.816***	-1.930***	-1.889***	-2.094***
	(0.049)	(0.045)	(0.048)	(0.044)
Very Bad Health	-2.734***	-3.044***	-2.788***	-2.898***
	(0.097)	(0.092)	(0.092)	(0.084)
Second Quartile Income	0.435***	0.312***	0.325***	0.222***
	(0.037)	(0.034)	(0.035)	(0.031)
Third Quartile Income	0.605***	0.420***	0.509***	0.341***
	(0.037)	(0.033)	(0.034)	(0.031)
Fourth Quartile Income	0.849***	0.582***	0.756***	0.496***
	(0.038)	(0.034)	(0.035)	(0.031)
Income Not Reported	0.535***	0.365***	0.546***	0.401***
	(0.035)	(0.031)	(0.034)	(0.030)
Austria	0.628***	0.279***	0.910***	0.451***
	(0.080)	(0.072)	(0.083)	(0.077)
Belgium	1.310***	0.855***	0.900***	0.635***
	(0.068)	(0.062)	(0.066)	(0.060)
Bulgaria	-1.122***	-1.062***	-0.963***	-0.809***
	(0.075)	(0.069)	(0.080)	(0.072)
Cyprus	0.738***	0.466***	0.465***	0.267***
	(0.082)	(0.070)	(0.085)	(0.075)
Czech Republic	0.337***	0.552***	-0.070	0.086
	(0.074)	(0.062)	(0.075)	(0.064)

Table 6.2 Estimates of SWB for the Individual-Level Characteristics (Continued)

	Life Satisfaction Wave 1	Happiness Wave 1	Life Satisfaction Wave 2	Happiness Wave 2
Germany	0.861***	0.478***	0.745***	0.443***
	(0.068)	(0.061)	(0.058)	(0.051)
Denmark	2.151***	1.328***	1.848***	1.161***
	(0.071)	(0.064)	(0.064)	(0.060)
Greece	0.208***	0.220***	-0.509***	-0.721***
	(0.077)	(0.069)	(0.075)	(0.068)
Spain	0.995***	0.594***	0.904***	0.653***
	(0.072)	(0.065)	(0.064)	(0.057)
Finland	1.880***	1.313***	1.573***	1.154***
	(0.062)	(0.056)	(0.064)	(0.058)
France	0.930***	0.687***	0.613***	0.321***
	(0.063)	(0.057)	(0.058)	(0.054)
Hungary	-0.378***	0.247***	-0.511***	0.102
	(0.081)	(0.072)	(0.081)	(0.072)
Ireland	1.172***	0.831***	0.775***	0.517***
	(0.075)	(0.064)	(0.077)	(0.070)
Italy	0.260***	-0.007	0.252***	-0.003
	(0.067)	(0.061)	(0.050)	(0.052)
Lithuania	0.462***	0.583***	0.443***	0.266***
	(0.078)	(0.074)	(0.077)	(0.071)
Luxembourg	1.654***	1.077***	1.168***	0.693***
	(0.072)	(0.066)	(0.069)	(0.063)
Latvia	0.247***	0.310***	0.077	0.003
	(0.080)	(0.070)	(0.079)	(0.071)
Malta	1.368***	0.985***	0.669***	0.121*
	(0.076)	(0.068)	(0.074)	(0.070)
Netherlands	1.538***	0.957***	1.145***	0.717***
	(0.060)	(0.055)	(0.063)	(0.057)
Poland	0.764***	0.521***	0.699***	0.423***
	(0.068)	(0.063)	(0.061)	(0.055)
Portugal	0.193**	0.156**	0.316***	0.278***
	(0.077)	(0.072)	(0.073)	(0.069)
Romania	0.394***	0.194***	0.335***	0.116*
	(0.079)	(0.074)	(0.074)	(0.065)
Sweden	2.045***	1.173***	1.518***	0.793***
	(0.068)	(0.065)	(0.067)	(0.063)
Slovenia	0.956***	0.646***	0.396***	0.115*
	(0.074)	(0.067)	(0.072)	(0.062)
Slovakia	0.462***	0.536***	-0.134*	-0.092
	(0.074)	(0.064)	(0.077)	(0.069)
UK	1.025***	0.849***	0.798***	0.661***
	(0.068)	(0.063)	(0.062)	(0.056)
Turkey	0.162**	-0.214***	0.140*	-0.173***
	(0.073)	(0.068)	(0.073)	(0.064)
Croatia	0.366***	0.199***	0.327***	0.292***
	(0.080)	(0.074)	(0.082)	(0.072)
Number of Observations	33,962	33,962	39,037	39,037
Adjusted R^2	0.272	0.262	0.210	0.221

Sources: EQLS 2007–2008 and 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health, First Income Quartile and Macedonia. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Croatia, Serbia, Macedonia and Montenegro experienced lower SWB than Slovenia in Wave 2. Like Macedonia, these ex-Yugoslav countries were less developed and assessed to be less prepared for membership than the countries that managed to join the EU in the foregoing enlargement. However, although not in the EU, they had higher SWB than Bulgaria and Greece.

This may be because the transition process itself required countries to either modernise the old or introduce new institutional foundations to support the new capitalist regime (Guriev & Zhuravskaya, 2009). Although the period of transition is almost over and the changes were introduced at the beginning of the process, according to Nikolova (2016), the full functioning of a framework with the ability to meet the requirements of a modern state was a gradual and enduring procedure. Another possible explanation could be that due to the difficult challenges of the countries' past, people in ex-Yugoslavian countries have acclimatised to less favourable life conditions and have adjusted their expectations downward. Therefore, reflective of Diener et al.'s (2018) argument, people may have become relatively happy over time, on par with the ways in which the country developed to meet people's basic needs. The lower aspirations they came to accept may have made them perceive their lives to be as good as people from more developed countries perceive theirs, while in Greece and Bulgaria, it may be expectations and comparisons from being in the EU bringing disappointment and lowering their SWB.

These findings suggest that even after adjusting for individual-level determinants and assuming country-specific differences have been absorbed in the country dummy variables, there were still some SWB gaps in Europe. However, the country differences captured in the country dummies did not explain why there were distinct levels of SWB. It may be that national characteristics are predictors of the SWB gap. To add further insights, the next part of the analysis investigates whether the aggregate-level variables added in place of the country dummies influence SWB in Europe.

Table 6.3 shows the results from the regressions following equation (6.2) for the macro-economic variables, institutional factors, and social trust, the new set of determinants included in the models. All models control for individual-level characteristics. For the purpose of simplicity, these are not presented in the table. The effects of these individual-level characteristics on SWB have mainly remained unaltered.

Table 6.3 OLS Estimates of SWB for the Country-Level Characteristics

	Life Satisfaction Wave 1	**Happiness Wave 1**	**Life Satisfaction Wave 2**	**Happiness Wave 2**
Log GDP per Capita (2011 PPP)	0.270	0.083	0.072	-0.173
	(0.270)	(0.229)	(0.288)	(0.174)
GDP Growth	0.065***	0.048***	0.014	0.002
	(0.021)	(0.017)	(0.026)	(0.022)
Unemployment Rate	-0.022**	-0.015**	0.005	0.008
	(0.008)	(0.007)	(0.014)	(0.010)
Inflation	-0.044	-0.011	-0.022	0.066
	(0.036)	(0.031)	(0.086)	(0.045)
Control of Corruption	0.574***	0.230**	0.470***	0.321***
	(0.104)	(0.105)	(0.123)	(0.075)
Voice and Accountability	-0.263	0.393	-0.014	0.376
	(0.281)	(0.254)	(0.397)	(0.223)
Social Trust	0.158***	0.093***	0.133***	0.089***
	(0.009)	(0.007)	(0.009)	(0.009)
Individual-level Dummies	Yes	Yes	Yes	Yes
Number of Observations	33,696	33,696	38,812	38,812
Adjusted R^2	0.282	0.259	0.212	0.223

Sources: EQLS 2007–2008 and 2011–2012 matched with data from WB, ILO, IMF and WGI.

Notes: All regression include individual-level dummies. Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile. Robust standard errors, clustered at the country level in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The macro-economic conditions influenced SWB only in Wave 1. SWB in 2007–2008 increased with GDP growth and declined with the rate of unemployment. GDP growth influenced SWB as in the study by Wu and Li (2013), while unemployment measured at aggregate level lowered SWB as in previous research (Di Tella et al., 2003, Hayo, 2007). GDP per capita did not exert any significant influence, possibly due to the correlation with the institutional factors.[47]

The coefficients attached to the institutional variables were larger than those of the macro-economic variables. Control of corruption had a strong positive impact on both measures of SWB in both years, similar to other transition countries (Rodríguez-Pose & Maslauskaite, 2011, Djankov et al., 2016). People in Europe valued trustworthy people around them, as social trust also positively and strongly correlated with life satisfaction and happiness of people in Europe. The finding regarding social trust corroborates other studies (Fidrmuc & Gërxhani, 2008, Helliwell et al., 2014).

[47] Excluding the institutional factors in a separate regression made GDP per capita positively and significantly correlated with happiness and life satisfaction in both waves, with or without region dummies in the models.

Table 6.4 presents the OLS estimates from the model based on equation (6.3), where the wide set of individual- and country-level determinants used in the last model are regressed alongside the region dummies. Some of the effects of the aggregate variables are altered after the introduction of the region dummies. This may be due to their correlation with the region dummies, which also picked up the differences in national characteristics.

Table 6.4 OLS Estimates of SWB for the Individual and Country-Level Characteristics, Waves 1 and 2

	Life Satisfaction Wave 1	**Happiness Wave 1**	**Life Satisfaction Wave 2**	**Happiness Wave 2**
Log GDP per Capita (2011 PPP)	0.245	0.121	0.109	-0.091
	(0.231)	(0.186)	(0.277)	(0.184)
GDP Growth	0.067	0.041*	0.009	-0.006
	(0.046)	(0.021)	(0.028)	(0.021)
Unemployment Rate	-0.027**	-0.016**	0.007	0.010
	(0.012)	(0.008)	(0.013)	(0.009)
Inflation	-0.044	-0.017	-0.001	0.079**
	(0.030)	(0.024)	(0.071)	(0.036)
Control of Corruption	0.562***	0.252**	0.319*	0.241**
	(0.122)	(0.119)	(0.171)	(0.109)
Voice and Accountability	-0.152	0.355	0.602	0.748**
	(0.489)	(0.485)	(0.475)	(0.294)
Social Trust	0.161***	0.098***	0.132***	0.089***
	(0.009)	(0.008)	(0.008)	(0.008)
EU15	-0.238	-0.212	-0.657***	-0.496**
	(0.342)	(0.289)	(0.226)	(0.198)
A10	-0.055	0.082	-0.577**	-0.377*
	(0.340)	(0.318)	(0.250)	(0.185)
New Entrants	-0.575	-0.562	-0.379	-0.265
	(0.478)	(0.475)	(0.468)	(0.348)
Individual-level Dummies	Yes	Yes	Yes	Yes
Number of Observations	33,696	33,696	38,812	38,812
Adjusted R^2	0.286	0.266	0.213	0.224

Sources: EQLS matched with data from WB, ILO, IMF and WGI, 2007–2008 and 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health and First Income Quartile and Non-EU countries (Turkey, Croatia and Macedonia). Robust standard errors, clustered at the country level in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Regarding the macro-economic variables, GDP growth reduced the level of significance for happiness and became insignificant for life satisfaction in Wave 1. The unemployment rate largely retained its effect in terms of size and level of significance. The inflation gained significance and had a positive, although minimal, effect on happiness in Wave 2 (Table 6.4). This observation seems surprising but is not necessarily incompatible with the existing evidence in some transition countries (Sanfey & Teksoz, 2007, Golem & Perovic, 2014). Such studies explain this by noting that inflation may be associated with wealth-distribution effects that positively affect transition economies in net terms. In contrast, low inflation may be perceived

as fiscal austerity, in terms of reduction in government spending on essential goods and services (Golem & Perovic, 2014).

In terms of the institutional variables, control of corruption and social trust remained positive and statistically significant in both waves. However, the effect of corruption in Wave 2 had a reduced level of significance. The variable voice and accountability appeared as significant, increasing happiness in 2011–2012. The effect was strong, and its magnitude was the largest compared to the rest of the variables presented in Table 6.4. This is in line with research that highlights the importance of freedom for political participation (Veenhoven, 2000) and existence of free and uncontrolled media (Bjørnskov et al., 2008) for SWB.

Apart from these results, the region dummies are worth discussing, especially in terms of the presence of the SWB gap between countries. In the earlier estimation, the non-EU economies were amongst the ones with the lowest SWB levels in Europe (Table 6.1), even after controlling for socio-economic traits (Tables 6.2.). However, in the later models, the non-EU countries seemed no longer different from the EU countries with respect to their SWB levels. When the models accounted for macro-economic and institutional variables and other national characteristics (picked up by the region dummies), region dummies became negative and insignificant in Wave 1 (Table 6.4). Furthermore, in Wave 2, the region dummies yielded negative coefficients, suggesting that compared to the non-EU region and all else equal, the rest of the groups of regions experience lower SWB. Some of the region coefficients did not only go in the opposite (negative) direction, but they were statistically significant, such as the differences in SWB for the respondents belonging to the EU15 and A10 regions, to the benefit of the non-EU region (Table 6.4).

Based on equation (6.3), some additional results are presented in Table A6.4, obtained by performing a Wald test for the joint significance of the variables used in the models (Wald & Wolfowitz, 1944). They are grouped into capabilities and conversion factors according to the

capability approach. The results from the Wald test show that all individual-level capabilities were statistically significant, confirming what has been found with OLS at the single variable level. However, the aggregate-level conversion factors, such as the macro-economic variables and the region dummies, did not show statistical significance in each of the cases.

6.4.1.1.2. Macedonia in the Balkan context

Table 6.5 shows the results from the analysis referring only to the Balkan area in 2011–2012. Models (1) and (2) show the differences in average-level life satisfaction and happiness between countries in this region, conditional on the socio-economic determinants. Models (3) and (4) exclude the country dummies that should have controlled for the differences in the countries' background, and instead include the macro-economic and institutional factors. For the purpose of conciseness, the individual-level socio-economic characteristics are not presented in the table.

The principal findings from the first two column are as follows. The significant coefficients attached to the country dummies indicate that three out of seven countries lag behind the excluded country Macedonia in reported life satisfaction and happiness. These SWB differences were statistically significant at the 1% significance level. One of those countries with low levels of SWB country was Kosovo. This is not surprising because the country was still in its infancy, having only gained independence in 2008. It has had an ongoing struggle to attain international recognition, while at the same time having slower economic growth than Macedonia (see Figures 6.2 and 6.4). Such factors may have affected people's perception about how their lives are in Kosovo.

Bulgaria and Greece, both members of EU, ranked lower in SWB than Macedonia, Croatia, Montenegro and Serbia. In this sense, while the two countries have successfully joined the EU and seem to have made efforts to meet the acceptance criteria, such as modernising the

society and improving the institutions, these did not seem to necessarily translate into high levels of SWB. For example, Bulgaria was a fairly new member in the period examined, having joined the EU in 2007. Its accession may have challenged the country to improve its institutions, which, as this chapter shows, bring high levels of SWB. However, Nikolova (2016) argues that it may take longer for people to embrace the changes in the country and adapt to the new conditions, which may cause lower levels of SWB. Moreover, Bulgarian accession may have been accompanied by rising aspirations of the people at the beginning of the accession, which may depress SWB if unmet (Nikolova & Nikolaev, 2017). In the case of low levels of SWB in Greece, citizens may have adapted to better life circumstances over time. However, due to the creation of higher expectations as an economically developed country and supported by the EU, the people of Greece may have felt disappointed when they compared themselves with others from more advanced countries, where citizens enjoy better living standards and have the advantage of living in more stable economic and political economies.

Turning attention to models (3) and (4), the results indicate that material concerns were less important to the SWB of people in the Balkans than institutions. Inflation appeared as a statistically significant determinant of happiness, with a positive effect similar to the effect that inflation had on SWB when the analysis was based on the whole European sample. However, the magnitude of the coefficient was relatively small, meaning that for each percentage-point increase in the inflation rate, happiness increased by an average of 0.12 points (Table 6.5).

Like the results for Europe, institutional factors in the Balkans dominated the economic factors. For example, for every point of increase in social trust, SWB on average increased, reflected in an increase of 0.17 points in life satisfaction and 0.11 points in happiness. However, Balkan societies placed more emphasis on corruption. The coefficients of the control of corruption for happiness were larger compared to when the whole sample size was taken into consideration. For example, each one unit increase in control of corruption in the Balkan

countries led to higher life satisfaction of 2.9 points, compared to 0.5 in Europe, and higher happiness of 3.8 points, compared to only 0.3 points in Europe. In other words, while lower corruption leads to higher SWB in general, Balkan countries have relatively more benefits from reducing it. These results from Table 6.5 support further confidence that the institutional factors, such as corruption and social trust, were strong predictors of SWB differential among countries, and that their effect was not influenced by the sample's country composition.

Table 6.5 OLS Estimates of SWB for the Individual and Country-Level Characteristics, Balkan Countries, Wave 2

	Life Satisfaction (1)	**Happiness (2)**	**Life Satisfaction (3)**	**Happiness (4)**
Bulgaria	-0.931***	-0.651***		
	(0.093)	(0.084)		
Greece	-0.579***	-0.647***		
	(0.089)	(0.080)		
Turkey	0.001	-0.049		
	(0.094)	(0.083)		
Kosovo	-0.642***	-0.956***		
	(0.091)	(0.086)		
Croatia	0.325***	0.426***		
	(0.094)	(0.083)		
Serbia	-0.028	0.360***		
	(0.092)	(0.083)		
Montenegro	0.515***	0.721***		
	(0.093)	(0.082)		
Log GDP per Capita (2011 PPP)			-1.475	-3.278
			(1.805)	(1.912)
GDP Growth			-0.097	-0.219
			(0.302)	(0.321)
Unemployment Rate			-0.008	-0.070
			(0.109)	(0.116)
Inflation			0.053	0.121***
			(0.028)	(0.030)
Control of Corruption			2.917**	3.883***
			(0.861)	(0.911)
Voice and Accountability			-0.500	-0.750
			(3.184)	(3.401)
Social Trust			0.171***	0.109***
			(0.022)	(0.024)
Individual-level Dummies	Yes	Yes	Yes	Yes
Number of Observations	8,900	8,900	8,751	8,751
Adjusted R^2	0.179	0.241	0.194	0.236

Sources: EQLS matched with data from WB, ILO, IMF and WGI, 2011–2012.

Notes: Excluded categories are: Male, Married, Rural, Primary Education or Less, Employed, Very Good Health, First Income Quartile and Macedonia. Robust standard errors in parentheses, clustered at the country level for model (3) and (4).
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Finally, considering the evidence from the Wald test (Wald & Wolfowitz, 1944) in Table A6.5, all the variables, including the macro-economic, which have been grouped based on the capability approach were jointly significant determinants of SWB in the Balkans.

6.4.2. Shapley-Based Decompositions

The findings from OLS thus far suggest that both individual- and country-level determinants affected SWB in Europe and the Balkans. In this section, an additional approach—the Shapley-based decomposition—is applied. Shapley decompositions allow for better understanding of the relative importance of the group of factors in explaining SWB across the four regions in Europe. The Shapley-based decomposition method, by breaking down the R^2 statistics from the OLS regressions into separate contributions, demonstrates the value added by an explanatory variable to the total sum of the explained total overall variance in SWB (Shorrocks, 2013). This method is flexible enough, as it allows the explanatory variables to be correlated (Fields, 2004). For the sake of exposition, Figures 6.5 to 6.8 illustrate the results from the Shapley decomposition method regarding the relative importance of the group of determinants across both years and regions examined. Socio-demographic include: gender, age, age^2, marital status, number of children, residential area, and education. Individual economic include: employment status and household income. Macro-economic include: GDP per capita, GDP growth, unemployment and inflation. Formal institutions include: corruption and voice and accountability. Informal institutions refer to social trust.

In the regions where the countries with the lowest SWB were recorded—the new entrants and non-EU—the most important variables for the evaluative component of SWB in 2007–2008 were employment status and income (i.e. individual economic variables). These jointly accounted for about one-third of the variation in SWB (Figure 6.8). In 2011–2012, health in non-EU countries had the largest explanatory power in determining SWB. For example, health accounted for half of the variation of life satisfaction in Wave 2. It also explained 42.7% (Figure 6.8) and 62.3% (Figure 6.8) of the variation of happiness in 2007–2008 and 2011–2012 respectively. While socio-economic variables appeared to explain variations in happiness to a larger extent, social trust was the most important factor for explaining life satisfaction. The

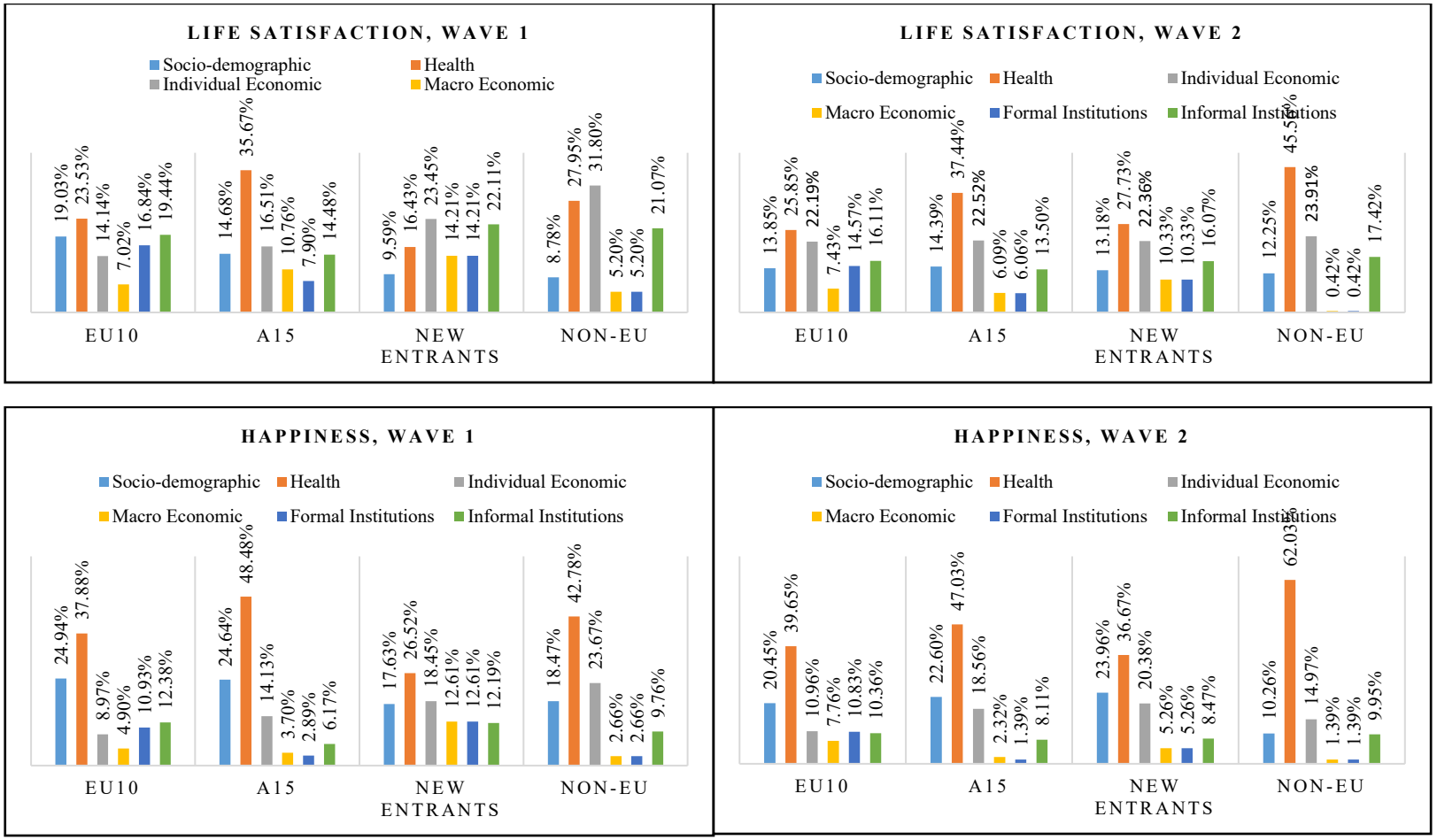
aggregate variables had the lowest percentages in explaining SWB in this part of Europe (varying from 0.42%, to a maximum 5.2% according to Figure 6.8).

Self-reported health explained the largest proportion of the variance in SWB in each year, for both life satisfaction and happiness across the EU10 and A15. After health, life satisfaction is explained by social trust, and then socio-demographic variables. However, the importance of social trust for happiness is lower, and socio-demographic and individual economic factors have higher explanatory power. Relative to non-EU countries, the effect of socio-demographic determinants is almost twice as great as the rest of the regions (Figure 6.8). In contrast to non-EU countries, where macro variables come last in explaining SWB, in the rest of the regions the importance of macro-economic and institutional variables is larger.

The estimates that show macro conditions are more important for SWB in the more developed countries indicate that after a given degree of economic development is achieved, other factors related to people's rights and freedom are of more importance than income, which is Inglehart et al.'s (2008) argument.[48] However, in non-EU (and similarly in the new-entrant) countries, macroeconomic and institutional reforms are also necessary to increase SWB. Although boosting SWB in those countries could be done through improvements regarding health, income, and employment activity, these conditions are embedded in the wider environment.

[48]Indeed, in Wave 2, most of the economic variables were not significant.

Figure 6.2 Shapley-Based Decompositions: Relative Importance of Determinants of SWB by Region, Wave 2 (% Contribution to R^2)



Source: Author based on EQLS matched with data from WB, ILO, IMF and WGI, 2011–2012.

6.5. Discussion

The analysis confirmed the existence of SWB differentials between countries in Europe. There was a striking contrast between countries, with Bulgaria and Greece scoring lowest, while Nordic countries such as Sweden, Denmark and Finland held the highest places. It is likely that in the Nordic countries, the high SWB levels were due to much higher standards of living. Despite being EU members, Bulgaria and Greece had depressed SWB levels, suggesting that these countries have different country profiles than the Nordic countries. Therefore, it seems that the high level of SWB is context-dependent rather than guaranteed by or linked to EU membership that implies a certain level of country progress. The complementary national-level conditions are therefore important to consider in the context of public policies, since if they do not materialise truly and meaningfully, SWB equality will not be attained, regardless of the proclaimed formal success of the countries that have joined the EU. The happiest EU countries can be considered learning opportunities, valuable for understanding what conditions are important for decreasing SWB inequalities in Europe.

Although the individual-level determinants are of particular interest within a country (see also Chapters 4 and 5), the SWB gap between Macedonia and other countries in Europe could not be attributed to them. Only after accounting for disparities in determinants defined at the national level and social trust was it possible to explain the international SWB differential across countries in Europe. The next section will discuss the policy recommendations for improving the conditions conducive to SWB in Macedonia.

6.6. Conclusion and Policy Recommendations

The chapter aims at investigating the source of SWB gaps between Macedonia and other countries in Europe, by investigating the impact of macro-economic and institutional conditions on SWB. The broad country-group comparison in this chapter is useful for placing Macedonia

in an international context. To achieve this aim, the following research questions were asked: 'How do SWB levels in Macedonia compare to those of other countries in Europe?'; 'What macro-level factors might account for the SWB gap between Macedonia and other countries?'; and 'How does the relative importance of SWB determinants differ across regions in Europe?'. The succeeding paragraphs address the questions by summarising the main findings from the analysis and illuminating policy priorities for intervention.

In terms of the first research question, the analysis confirmed the existence of SWB differentials between Macedonia and other countries in Europe. Despite Macedonia's relatively low economic performance, it was not the worst-performing country in Europe when it comes to SWB. In fact, as the results demonstrate, it compared well with some economically richer countries in Europe, especially after the SWB improvement in 2011–2012.

Regarding the second research question, the findings indicate that living in an economically developed country with sound institutional framework and high levels of social trust are predictors of high levels of SWB. In 2007–2008, GDP growth, unemployment rate, corruption and social trust, and in 2011–2012, inflation, voice and accountability and social trust helped to explain the SWB gap between regions in Europe. In addition, the findings from the Balkan sample confirmed the results from the European sample in regard to the significant effect of inflation, corruption and social trust.

In response to the final research question, it appears that there are differences in the explanatory power of the variables in SWB in different regions. In the non-EU region where Macedonia belongs, the individual-level capabilities, including health, followed by the individual-economic factors (income and employment activity) are the most important. Social trust is also important in explaining SWB, although it is more important for life satisfaction than for happiness. In addition, both economic and institutional aggregate variables hold the last place in explanatory power.

The finding that lower SWB appears to mirror the less favourable macro conditions underscore the need for governments to develop public policies that enhance SWB, since the macro conditions in the society in which people live are amenable to change. Government response to these SWB differences, using appropriate interventions, may potentially enhance SWB in Europe. Therefore, the important factor for reducing the SWB gap between the countries from the non-EU region and highly ranked SWB countries is for the former to catch up with the economic stability and the quality of institutions of happier countries, especially the EU's advanced countries.

In the first place, people gain SWB from a sound institutional framework, a finding that has significant policy implications, especially for countries experiencing ongoing institutional reforms as part of the modernisation of their society as part of aspiring to EU accession. One fundamental aspect that needs immediate attention within the institutional environment is the control of corruption, by promoting effective anticorruption policies. Creating and investing in fair, honest and moral institutions that underpin the society is crucial for the government to be able to deliver services honestly and efficiently (Bartolini & Sarracino, 2014). Despite contributing to SWB, the transformed or improved institutional conditions offer favourable outcomes for formation of social capital (Berggren & Jordahl, 2006), creation of economic opportunities (Ovaska & Takashima, 2006), and acceleration of economic growth (Engerman & Sokoloff, 2008). Moreover, governments should allow individuals to enjoy more freedom when exercising choice (Sen, 1985), in terms of participating in elections and freedom of expression (Frey et al., 2009, Daojiu, 2014), as the analysis showed that voice and accountability are also important for SWB.

Policy makers should also recognise that accumulation of social trust is as important as formal institutions if the government aims to enhance the SWB of its people. As Bartolini and Sarracino (2015) and Helliwell et al. (2014) suggest, in order to create and maintain high-quality

social capital, governments should prioritise urban and environmental policies, and policies focusing on labour regulations and health care. Such policies are expected to create an environment that establishes and maintains trustworthy human relationships, where people can network and trust each other.

Finally, governments' efforts toward increasing GDP growth while reducing unemployment rates should translate into higher SWB of their citizens. Although in Wave 2 the effect of the macro-economic conditions appeared to be waning, policymakers should recognise that other important factors for SWB, such as institutions, do not exist in vacuum and are likely to interact with other aspects of the economy and society, which in turn shapes people's perception of their lives. Therefore, according to the capability approach, it appears prudent for the government to overcome the obstacles at the individual or aggregate levels that place limitations on people's opportunities to enhance their SWB, so that the differences between countries in Europe narrow. In such an environment, individuals are free to exercise choice and take advantage of those opportunities in order to translate them into SWB (Nussbaum & Sen, 1993, Sen, 2005, 2008, Stiglitz et al., 2009).

6.7. Appendixes

Table A6.1 Selection of the Variables Based on the Capability Approach

	Capability Approach		
	Description (number on the list)	**Proxy**	**Source**
Nussbaum's list	bodily health (2)	self-reported health	EQLS
	sense, imagination, and thought (4)	education	EQLS
	affiliation (7)	social trust	EQLS
	control over one's environment (10b)	employment status	EQLS
		household income	EQLS
	practical reasoning (6)	voice and accountability	WDI
		corruption	WDI
Sen's conversion factors	Personal	age	EQLS
		gender	EQLS
	Social	marital status	EQLS
		children	EQLS
	environmental	residential area	EQLS
		country dummies	EQLS
		regions dummies	EQLS
		GDP	WB
		unemployment rate	WB
		inflation	WB

Source: Author based on Sen (1985, 1992) and Nussbaum (2000).

Table A6.2 Description of the New Variables Used in the Analysis

Variable	Description	Source
GDP per capita, PPP (constant 2011 international $)	'PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates. Data are in constant 2011 international dollars'.	World Bank, International Comparison Program database.
GDP growth (annual %)	'Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 US dollars.'	World Bank national accounts data, and OECD National Accounts data files.
Unemployment, total (% of total labour force) (modeled ILO estimate)	'Unemployment refers to the share of the labour force that is without work but available for and seeking employment.'	International Labour Organization, ILOSTAT database.
Inflation, consumer prices (annual %)	'Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used.'	International Monetary Fund, International Financial Statistics and data files.
Control of Corruption: Estimate	'Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5,'where a higher number indicates better control.	The Worldwide Governance Indicators (WGI).
Voice and Accountability: Estimate	'Voice and Accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.'	The Worldwide Governance Indicators (WGI).
Social Trust	'Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a scale of 1 to 10, where 1 means that you can't be too careful and 10 means that most people can be trusted.'	EQLS 2007–2008 and 2011–2012.

Sources: WB, WGI, ILO, IMF and EQLS.

Table A6.3 Summary Statistics

	Wave 1		Wave 2	
Variable	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Dependent variables				
Life Satisfaction (1=very dissatisfied, 10=very satisfied)	6.861	2.166	7.040	2.167
Happiness (1=very unhappy, 10=very happy)	7.322	1.928	7.308	1.943
Conversion factors (individual-level)				
Male (1=Yes)	0.430	0.495	0.426	0.494
Female (1=Yes)	0.569	0.495	0.573	0.494
Age	48.810	17.562	50.172	18.055
Age^2	2690.835	1783.698	2843.247	1876.944
Married (1=Yes)	0.621	0.485	0.601	0.489
Divorced (1=Yes)	0.099	0.299	0.104	0.305
Widowed (1=Yes)	0.116	0.321	0.125	0.331
Single (1=Yes)	0.162	0.368	0.169	0.375
Number of Children	1.648	1.376	1.598	1.336
Rural (1=Yes)	0.516	0.499	0.481	0.499
Urban (1=Yes)	0.483	0.499	0.518	0.499
Conversion factors (aggregate-level)				
GDP per capita (log transformed)	10.327	0.413	10.322	0.378
GDP growth	3.071	2.133	1.227	2.828
Unemployment rate	7.438	4.983	10.58	5.451
Inflation	4.581	2.713	2.273	1.273
Perceived capabilities (individual-level)				
Very Good Health (1=Yes)	0.196	0.397	0.210	0.407
Good Health (1=Yes)	0.411	0.491	0.387	0.487
Fair Health (1=Yes)	0.278	0.448	0.292	0.455
Bad Health (1=Yes)	0.091	0.288	0.085	0.278
Very Bad Health (1=Yes)	0.022	0.147	0.024	0.153
Social trust (1=careful when dealing with people, 10=most people can be trusted)	5.056	2.439	4.981	2.507
Perceived capabilities (aggregate-level)				
Control of corruption	0.979	0.812	0.859	0.800
Voice and accountability	1.045	0.407	1.016	0.458
Objective capabilities				
Primary (1=Yes)	0.171	0.376	0.137	0.344
Secondary (1=Yes)	0.650	0.476	0.631	0.482
Tertiary (1=Yes)	0.178	0.383	0.231	0.421
Employed (1=Yes)	0.482	0.499	0.447	0.497
Short-term Unemployed (1=Yes)	0.021	0.142	0.032	0.177
Long-term Unemployed (1=Yes)	0.031	0.175	0.042	0.200
Retired (1=Yes)	0.282	0.450	0.307	0.461
Homemaker (1=Yes)	0.102	0.302	0.089	0.285
Student (1=Yes)	0.048	0.214	0.049	0.217

Table A6.3 Summary Statistics (Continued)

	Wave 1		Wave 2	
Variable	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Other (1=Yes)	0.032	0.176	0.030	0.172
First Quartile Income (1=Yes)	0.173	0.378	0.189	0.391
Second Quartile Income (1=Yes)	0.173	0.378	0.191	0.392
Third Quartile Income (1=Yes)	0.175	0.381	0.191	0.392
Fourth Quartile Income (1=Yes)	0.174	0.379	0.191	0.393
Income Not Reported (1=Yes)	0.302	0.459	0.238	0.425

Sources: WB, WGI, ILO, IMF and EQLS, 2007–2008 and 2011–2012.

Notes: Mean value and standard deviation for each of the variables. Dummy variables take value 1 if the respondent belongs to the particular category and 0 otherwise.

Table A6.4 Multiple Hypothesis Testing: Joint Significance Tests

		Wald Test			
		Wave 1		Wave 2	
	level	Life Satisfaction	Happiness	Life Satisfaction	Happiness
Conversion factors	individual	0.000	0.000	0.000	0.000
	aggregate	0.000	0.000	0.232	0.094
Perceived capabilities	individual	0.000	0.000	0.000	0.000
	aggregate	0.000	0.001	0.006	0.000
Objective capabilities	individual	0.000	0.000	0.000	0.000

Sources: WB, WGI, ILO, IMF and EQLS, 2007–2008 and 2011–2012.

Note: p-values reported. Tests whether the independent variables have simultaneously predictive power.

Table A6.5 Multiple Hypothesis Testing: Joint Significance Tests, Balkan Countries

		Wald Test			
		Wave 1		Wave 2	
	level	Life Satisfaction	Happiness	Life Satisfaction	Happiness
Conversion factors	individual	0.000	0.000	0.003	0.000
	aggregate	0.000	0.000	0.009	0.000
Perceived capabilities	individual	0.000	0.000	0.000	0.000
	aggregate			0.025	0.008
Objective capabilities	individual	0.000	0.000	0.000	0.000

Sources: WB, WGI, ILO, IMF and EQLS, 2011–2012.

Note: p-values reported. Tests whether the independent variables have simultaneously predictive power.

CHAPTER 7

CONCLUSION

This thesis has sought to examine the determinants of SWB in Macedonia. This small transition country represents a suitable context in which to study SWB, because while it had a prolonged period of transition, an unstable economy, labour-market issues and weak institutions that are known to limit SWB, empirical evidence from European and world SWB reports have repeatedly found an increase in SWB over the last ten years.

The thesis has attempted to address the gap in the existing literature concerning research on SWB in an individual transition economy. To do so, the thesis made use of data from two waves of the EQLS, 2007–2008 and 2011–2012. SWB has been examined through its two main aspects, life satisfaction and happiness, with regard to a wide range of socio-economic, labour-market-related, macro-economic and institutional variables. What follows summarises the main themes of discussion the thesis raises and assesses the findings with particular emphasis on how they (7.1) have addressed the research questions, (7.2) have thus contributed to knowledge and advanced the study of the determinants of SWB in a single transition country, (7.3) have generated policy implications, (7.4) may be limited, especially by data availability and finally (7.5) have implications for future research.

7.1. Addressing the Research Questions

The thesis addresses the central research question, ‘What makes for a happy life in Macedonia?’, by considering several individual- and country-level determinants that affect

people's perception of their lives. The findings related to each sub-question are outlined below, grouping those closely related into broad categories.

1. 'What specific socio-economic determinants are associated with SWB in Macedonia?'; 'What differences, if any, exist in the effect of socio-economic determinants across the two time periods (2007–2008 and 2011–2012) and the two measures of SWB (life satisfaction and happiness)?'; and 'How do the effects of the socio-economic determinants vary across different points along the distribution of SWB?'.

The main determinants of SWB in Macedonia that exerted a strong influence on both measures of SWB, life satisfaction and happiness, across the two waves, were health, income and long-term unemployment, whilst education increased only the hedonic component of SWB, happiness. The comparison of the effect of these variables across the different measures suggests that health had a larger effect on happiness, while the effect of long-term unemployment and income was greater on life satisfaction. The effect of the categories of employment activity, gender and age depended on the period examined.

Additionally, the effect of the determinants varied across the distribution of the SWB scale. For Macedonians who scored higher on SWB, the relative impact of income was lower. Similarly, moving across the upper quantiles on the SWB distribution, the coefficients on long-term unemployment, education and marital status were reduced in magnitude or significance, or even lost their significance, as in other similar studies (Binder & Coad, 2011b, 2015, Graham & Nikolova, 2015). People at the bottom of the SWB scale were relatively less affected by health than people at the top, especially in Wave 2. Such results contrast with some other studies' findings (Binder & Coad, 2011b, 2015, Graham & Nikolova, 2015) and a possible explanation may be that happier people tend to be more active and keep themselves occupied, and bad health affects them in performing the things they like (Palmore & Luikart 1972). It is also possible that the findings are a result of a two-way relationship in which the causality may

be unclear. People tend to report better health if they experience higher SWB. Nevertheless, it is still important to recognise that health and SWB are closely associated in Macedonia, but that the relationship can be complex (Chapter 4).

2. 'What particular socio-economic factors have a similar impact on the SWB of the employed and the unemployed?'; 'What job-related characteristics affect the SWB of the employed?; and 'What are the unemployment-related characteristics associated with the SWB of the unemployed?'.

A consistent effect on both the employed and the unemployed was found for income (in 2007–2008 and 2011–2012) and health (in 2011–2012) for both aspects of SWB. In Wave 1, being divorced/widowed decreased only happiness of the employed, while the number of children increased the life satisfaction of the unemployed. In 2011–2012, income had a stronger impact on the unemployed, while the SWB of the employed was only affected by age and being divorced/widowed. The SWB of the employed was further decreased by job insecurity, whereas the SWB of the unemployed was adversely affected by long-term unemployment and the receipt of benefits (Chapter 5).

3. 'How do SWB levels in Macedonia compare to those of other countries in Europe?'; 'What macro-level factors might account for the SWB gap between Macedonia and other countries?' and 'How does the relative importance of SWB determinants differ across regions in Europe?'.

SWB levels in 2007–2008 in Macedonia were among the lowest in Europe; however, in 2011–2012, SWB in Macedonia had increased quite sharply. The most pronounced SWB differences were between Macedonia and advanced countries in Europe such as Sweden, Denmark and Finland, which have the highest levels of SWB in Europe. Bulgaria and Greece had lower SWB than Macedonia in both years examined.

The SWB gap between countries (grouped in regions) in Europe was attributed to institutional variables defined at the national or individual level and macro-economic

determinants. After accounting for disparities in those determinants, the international SWB differentials between the countries with relatively low levels of SWB and the countries with the highest SWB levels disappeared. GDP growth, unemployment rate, corruption and social trust in 2007–2008, and inflation, voice and accountability and social trust in 2011–2012 helped to explain the SWB differential between regions in Europe. In addition, the findings from the Balkan sample confirmed the results from the European sample in regard to the significant effect of inflation, corruption and social trust. Moreover, the size of the coefficient on control of corruption was larger than the one found when the whole sample is analysed, suggesting that corruption has a greater effect on the SWB of people from the Balkans.

Finally, the relative importance of the determinants in explaining SWB differs across regions in Europe. In the non-EU region, where Macedonia belongs, the most important factors in explaining SWB were health, income and employment activity. Social trust came next, and it was more important for life satisfaction than for happiness. The aggregate variables, both economic and institutional, were least important, according to their explanatory power in the models used. Compared to the non-EU region, the importance of macro-economic and institutional variables was larger in the EU10 and A15 regions that consist of more developed countries.

This thesis recommends that researchers should pay attention to the individual country-specific context. The results indicate that even though some determinants of SWB in Macedonia are similar to other transition countries, other factors affect SWB in Macedonia, as they do in more developed economies.

7.2. Contributions to Research

The current state of knowledge in the field of economics of happiness is mainly occupied by research devoted to the advanced North American and European countries (Winkelmann &

Winkelmann, 1998, Duncan, 2005, Lucas, 2007, Stadelmann-Steffen & Vatter, 2012) or comparative studies of advanced and transition economies (Graham & Chattopadhyay, 2013, Nikolova, 2016). Another important feature of the SWB research is that the few single transition countries that have attracted attention typically refer to the consequences of the transition that reduced SWB in the first period of the transition process (Gruen & Klasen, 2000, Hayo, 2007, Sanfey & Teksoz, 2007, Guriev & Zhuravskaya, 2009, Habibov & Afandi, 2009, Dabalen & Paul, 2011, Lehmann & Muravyev, 2012, Popova, 2014). As a result, theoretical insights in the literature remain unbalanced, with very limited research on single transition countries in more recent times when the transition has largely been completed.

This thesis has made a distinct contribution to the existing knowledge of the determinants of SWB in the context of transition countries by providing evidence from an under-explored transition country, Macedonia. Thus, the thesis complements a small but important literature (Litchfield et al., 2012, Graham et al., 2017), which considers what makes people happy and satisfied with their lives in transition countries in more recent times. By focusing on the country context of Macedonia, this research introduces fresh insights that directly focus on the particular case of a small transition country with high unemployment, affected by other macro-economic and institutional issues such as corruption and limited freedom of the media and the people to choose their government.

Despite this emphasis on Macedonia, the research also has looked at other countries in Europe, as well economies that have not been studied previously in detail, such as the ex-Yugoslavian countries, by examining factors that may account for the differences between national levels of SWB. The thesis thus advances the debate over the existence of the SWB gap across countries (Djankov et al., 2016, Nikolova, 2016). Moreover, the comparison also provides important insights regarding the SWB in EU member states, which forms part of the

wider discussion of whether being a member of the EU contributes to greater happiness (Nikolova & Nikolaev, 2017).

Another common practice of the empirical analysis in the existing literature relates to the use of techniques that focus on the average SWB, mainly through using OLS models. Although these approaches are useful of determining the general relationship between a particular variable and SWB, they do not provide researchers with a full appreciation of whether the effect of the variable is constant on SWB, depending on the positioning on the scale. Motivated by a recent paper by Clark (2018) calling for more research using alternative regressions, Chapter 4 answers this call by using quantile regressions, for the first time, on data in a single transition country, to delve deeper and provide some new insights on SWB in this context. The results from the quantile-regression approach have enriched the findings obtained from more conventional methods and contributed to the few SWB studies claiming that some effects can be over- or underestimated if the focus is only on the mean of the dependent variables.

Another notable empirical contribution of this thesis is the use of several econometric techniques. More particularly, the adoption of the statistical kernel matching technique and the Blinder-Oaxaca decomposition allows estimation of how much of the SWB increase in Macedonia was in the differential in the observable characteristics of the respondents from the waves. Previous SWB studies that have used matching (Nikolova & Graham, 2014) compared respondents across demographic groups; however, in this thesis, the individuals have been matched across the waves.

In addition, to the best of the author's knowledge, this thesis is the first application of the Blinder-Oaxaca decomposition (a technique of investigating differences in means between two groups) and the Rosenbaum test (to check whether the results from the matching are biased toward hidden bias, due to unobservable characteristics) in an SWB study. Such analysis was an attempt to avoid misleading inferences, deriving from cross-sectional data, about the SWB

trends over time. Therefore, Chapter 5 is a step forward in understanding the SWB increase in Macedonia over recent years, also found in the happiness reports (Helliwell et al., 2012, Soldi et al., 2014, Helliwell et al., 2017, EBRD, 2017).

Apart from some exceptions (Lamu & Olsen, 2016, Nikolova, 2016) the Shapley-based decomposition has not been often used in past SWB studies. The technique is used in order to check whether the determinants of SWB have different importance in explaining SWB across Europe. The analysis here found that the size of the explanatory power of different determinants vary across the region examined, especially important for public policy in a specific context, with regard to deciding where to focus resources.

Another contribution of the thesis lies in the particular dataset used. Perhaps as a consequence of interest in studying SWB trends over a long period of time or the scope of the comparative studies that aim to include a large number of countries across the world, the majority of the studies (Diener & Oishi, 2000, Veenhoven, 2004, Deaton, 2008, Veenhoven, 2012, Cuñado & de Gracia, 2012) make use of Gallup World Poll, EVS, WVS or ESS. Other datasets, such as the EQLS, have been less commonly used sources. The empirical chapters have provided confirmation that similar results to those identified in other studies can be obtained using a different dataset. It can be concluded that the EQLS could be used to undertake more research in the SWB area as it has been successfully applied in this thesis.

Finally, this thesis stands as a contributor to the limited number of studies (Anand et al., 2005, Anand & Van Hees, 2006, Veenhoven, 2010, Van Ootegem & Spillemaeckers, 2010, Lima, 2013, Graham & Nikolova, 2015) that have explicitly used theories in examining SWB. Whilst the issue of incomplete theories has been acknowledged as one of the problems in the field of economics of happiness (Easterlin, 2005), the interdisciplinary approach often used in studying SWB, coupled with the heavily applied statistical approach, may be part of the possible reasons for theories that have been less important in past SWB studies. Given the critique that

SWB research is 'atheoretical' (Griffiths & Reeves, 2009) in nature, it appears crucial for SWB research to embrace more theoretical underpinnings to better link empirical results, so that the research leads to a broader understanding of the reasons behind the effects of the determinants on SWB. The analysis in this thesis mainly draws upon the capability approach from a theoretical perspective (in Chapter 5, this was combined with the frameworks of the self-determination and latent theories), either as part of the starting hypothesis to guide the development of empirical analysis or to help to interpret and discuss the findings. Drawing on theoretical foundations from the capability approach, this thesis sheds light on the opportunities that people in Macedonia lack, but which may be fundamental to their pursuing the life they want and achieving high level of SWB.

7.3. Policy Implications and Recommendations

Beyond the contributions to knowledge that were offered throughout this thesis and summarised in the previous section, the findings are also relevant for government officials and policy makers. It may be possible for governments to use these findings to develop public policies to improve SWB. The findings have deepened the understanding of what is important for people to live happy lives in Macedonia, which raises policy-relevant matters about the right conditions for improving SWB. In line with the capabilities approach, policy makers should be fundamentally concerned with providing capabilities (choices and opportunities) that people lack, which are instrumental in promoting SWB. The government should thus aim to provide a fertile environment where individuals can select the opportunities that make them happy and satisfied.

Such conditions at the individual level typically relate to employment opportunities, boosting income, educational and health systems. Government efforts are also needed to advance macro-level conditions. In essence, a higher GDP growth will increase the material

comfort of people, while combating unemployment will remove some of the constraints that weaken people's freedom, financial situation and skills.[49] Next, the government should consolidate democratic institutions and invest resources in combating corruption and allowing freedom, because according to the capability approach, corruption and a lack of free expression of media or electing the government are seen as a country's lack of autonomy and democracy that are found to depress SWB in Macedonia.[50] Closely linked to the institutional conditions are the informal institutions, in the form of social trust. In regard to this matter, the government should aim to provide conditions for a more trustworthy environment where people feel secure to interact and build relationships with each other.

The findings are also valuable sources for the management of public- and private-sector and policy making focusing on the labour market. Policy makers should create incentives for employers to develop working conditions that will help to prevent job insecurity amongst the employed, because the fear of losing one's job is detrimental to SWB. Furthermore, programmes for the unemployed to exit their unemployment status more quickly and avoid long-term unemployment is crucial for the prevention of further declines in SWB for the unemployed. Also, receipt of unemployment benefits at current levels appears to constrain the SWB of the unemployed. Unemployment benefits should be either increased or combined with other support, such as the introduction of training programmes that will help the unemployed to gain skills and knowledge that will help them get employed.

The provision of conditions conducive to improving the SWB of individuals also has implications for the country and can help to accelerate social progress. In essence, policy recommendations for higher levels of SWB overlap with current measures that the government undertakes, such those relating to the labour market, education, and macro-economic

[49] Even though the Easterlin paradox suggests that an increase in GDP has not translated into higher SWB in the US (Easterlin, 2016), transition countries are an exception to the Easterlin paradox, and trends in SWB levels are strongly related to GDP trends in both long- and short-term (Bartolini et al., 2017).
[50] Such actions will also require further monitoring to ensure continued progress.

conditions. For example, preventing corruption that destroys political institutions is expected to increase SWB and should also contribute to a building a healthy economy (Acemoglu & Robinson, 2010). Similarly, accumulation and maintenance of social capital should help to better counter some negative circumstances, such as a financial crisis (Diener et al., 2018).

7.4. Limitations

While this research is considered to provide a step toward the understanding of the linkage between SWB and an array of determinants in a single transition country, SWB data on transition countries are commonly thought to be of low quality (Skoglund, 2017), exposing researchers to empirical challenges. This research also confronts several major difficulties, as the empirical analysis was subject to data constraints. While better panel data are ideally needed to go beyond the empirical possibilities of this thesis, an attempt was made in order to reduce some potentially problematic empirical issues.[51]

First, the results from this research should be technically interpreted as associations or correlations, given the cross-sectional nature of the data used. Besides these effects, individual characteristics, biological and personal traits (such as the 'big five' discussed in section 2.8.3.2), are important, as they can modify the effect of the other (external) circumstances on people's SWB (Lima, 2013). While panel data following the same Macedonians over time could reveal casual effects, the cross-sectional analysis largely yielded consistent results with the existing literature that makes use of panel data (Winkelmann & Winkelmann, 1998, Lucas, 2007, Stadelmann-Steffen & Vatter, 2012). Moreover, Clark and Oswald (2002) find that the biases in cross-sectional patterns from SWB data are less strong and important than it has been argued by other researchers (Burchell, 1990, Ferrer-i-Carbonell & Frijters, 2004).

[51] Panel data are costly and therefore uncommon for small, economically poorer countries at the moment, which explains why a large part of the literature on determinants of SWB that uses panel data stems from developed countries.

Another concern is that some insignificant findings are likely to be driven by the relatively small sample size, especially when it comes to SWB of the unemployed. The SWB of the unemployed was an important and relevant question to study, as the unemployed have represented a large part of the Macedonian population. It should be noted, however, that in Chapter 5, due to the reduced number of observations in each sub-group of the unemployed, when dummy variables were generated, the standard errors were increased and some of the coefficients exhibited lower significance levels. While a larger dataset is likely necessary to identify stronger relationships, the issue was addressed by combining subcategories (where possible) to enlarge the number of observations in particular groups. Such an approach enables obtaining more robust results, as it relies on an increased cell size.

The last limitation comes from the survey used. First, the EQLS exhibits some changes over time. This limited the inclusion of some variables, such as self-employment, as the purpose was to compare the same models over the two periods. Moreover, some Balkan countries were included in only one of the years, which constrained the comparison between years. The use of the existing survey also shaped the research questions so that they could be answered by using the available data.

Although the findings from this thesis may be subject to some caveats and shortcomings, they provide a robust set of results by estimating the same models in different years, SWB measures and country samples. This demonstrates that the results are not driven by the composition of the sample, the period or the variables used. Moreover, gradually adding controls to the models also provides confidence in the robustness of the results. The author hopes the thesis stimulates further research, especially when more or better data become available. Research on SWB in Macedonia is still in its infancy and there is obviously still much to learn.

7.5. Recommendations for Future Research

Despite the acknowledgement of the limitations, challenges and opportunities that have been raised throughout the thesis have culminated in the development of a future research agenda. First, SWB is a complex and multidimensional construct; many aspects of life interact with each other and are regarded as important for SWB. While this thesis has identified some core determinants of SWB, many other factors at which this study has not looked are crucial to determining the SWB of individuals and may stimulate a way forward into more research from Macedonia. Therefore, a useful exercise that future research may consider might be to check whether the effect of other variables, such as relative income, other aspects of social capital (volunteering or religion), some job-related characteristics (such as self-employment), or different institutional characteristics (the rule of law or inequality, for example) are different in Macedonia. The literature has found these variables to be important for SWB and may be important explanatory factors in Macedonia. Moreover, future research may focus on other dimensions of SWB, such as the eudemonic aspect of SWB (purpose in life), or the separate aspects of momentary SWB such as its positive and negative affects.

Another possible alternative is undertaking research using different data-gathering techniques, such as qualitative research methods. Focus-group discussions, for instance, would enable the participants to discuss in depth the determinants that affect their SWB. This approach should be fruitful in the identification of the reasons why and how the particular factors found in quantitative studies are important for people's perception of their lives. For example, as Van Ootegem and Spillemaeckers (2010) recommend, the researcher can create a list of items specifically constructed from the capability approach to measure capabilities, choices and freedom, and ask the respondents to rank those based on the importance to their SWB. Then, the subsequent discussion could help in finding out about participants' thoughts regarding the

concepts of the capability approach and, through discussion, reveal information that is not directly asked (Zimmermann, 2006).

To conclude, the purpose of this thesis was to offer, for the first time, novel and detailed empirical evidence of determinants of SWB in Macedonia, using a range of statistical and econometric techniques. In particular, the thesis contains empirical evidence from a research tailored to the Macedonian context, where the determinants have been carefully chosen so that they are suitable and specific to Macedonia. The thesis thus has the potential to provide the Macedonian government with detailed findings if it decides to incorporate SWB as a target for its policy making. While this research has been mainly approached from an economic perspective, it has remained open to insights and knowledge from other social sciences. The findings from this thesis are not exhaustive, but they should provide an important starting point to encourage the next stage of SWB research in Macedonia.

ETHICAL STATEMENT

The research for this project was submitted for ethics consideration under the reference BUS 17/045 in the UR Business School and was approved under the procedures of the University of Roehampton's Ethics Committee on 26.09.17.

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